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1985-86

# Brandeis University Bulletin

Graduate  
School of Arts  
and Sciences



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It is the policy of Brandeis University not to discriminate against any applicant on the basis of race, color, religion, sex, sexual or affectional preference, age, national origin, veteran or disability status. The University operates under an affirmative action plan and encourages minorities and women to apply, both in terms of employment and to all the rights, privileges, programs, and activities generally accorded or made available to its students. Inquiries concerning discrimination may be referred to the Assistant to the President for Affirmative Action, Gryznish Building, Brandeis University and/or to the Director, Office for Civil Rights, U.S. Department of Education, Washington, D.C.

Programs, requirements, fees and other information are set forth herein as they exist at the date of this publication. Brandeis University reserves the right to make changes without notice.

# Academic Calendar

## 1985-1986

### Fall Term

Wednesday	August 28	Returning students register. Fees are payable in full at this time. Students who register later will be fined \$10.	Thursday and Friday	November 28 and November 29	No University Exercises.
Thursday	August 29	New students register. Fees are payable in full at this time. Students who register later will be fined \$10.	Tuesday	December 10	Last day of instruction
Friday	August 30	Sectioning	Wednesday and Thursday	December 11 and December 12	Study days
Monday	September 2	No University Exercises.	Friday through Friday	December 13 December 20	Examination period. Winter Recess begins after last examination.
Tuesday	September 3	Opening day of instruction in courses.	Thursday	January 2, 1986	Fall term grades due and Incompletes from Spring Term 1985. Final day for faculty certification that February master's candidates have completed degree requirements, including language(s) and theses, and that Ph.D. candidates have defended dissertations. Final day for February degree candidates to discharge any financial indebtedness to the university.
Monday and Tuesday	September 16 and September 17	No University Exercises.			
Thursday	September 19	Final day for filing Study Cards. No program changes for Fall Term may be made after this date.			
Wednesday	September 25	No University Exercises.			
Monday	September 30	No University Exercises.	Friday	January 10	Final day for admission to candidacy and for completion of language requirements for students expecting to earn the Ph.D. in May 1986.
Monday	October 7	No University Exercises.			
Tuesday	October 8	Brandeis Monday. Monday class schedule is in effect.			

# Academic Calendar

## 1985-1986

### Spring Term

Tuesday	January 14	Registration for students entering Spring Term. Registration procedures begins for returning students.	Friday	April 18	Final day for faculty certification that May Ph.D. candidates have defended dissertations. Final day for May degree candidates to discharge any financial indebtedness to the University.
Wednesday	January 15	First day of instruction in courses.	Wednesday	April 23	Brandeis Monday. Monday class schedule is in effect.
Monday	January 20	No University Exercises.	Thursday through Thursday	April 24 May 1	Spring Recess.
Monday	February 3	Last day for filing Study Cards. No program changes may be made after this day.	Friday through Friday	May 2 May 9	Examination period.
Monday	March 3	Final day for filing Application for Financial Aid for 1986-87.	Monday	May 12	Grades due for all degree candidates no later than 10 a.m. Final day for faculty certification that Master's candidates theses have been accepted.
Friday	March 7	Last day for May degree candidates to submit drafts of theses and dissertations to department chairs and to file Application for Degree with Graduate School Office.	Sunday	May 18	Commencement.
Monday through Friday	March 10	Mid-term break.	Tuesday	May 20	All Spring Term grades due and Incompletes from Fall Term.
Tuesday	April 1	Final day for Master's candidates to complete foreign language requirement(s) for May degree. Final day for completion of language requirements for students expecting to earn the Ph.D. in February 1987.			

## Brandeis University

Founded in 1948, Brandeis University is recognized as one of the finest private liberal arts universities in the United States. It received accreditation within five years, the shortest possible time, and was awarded recognition by Phi Beta Kappa in 1961, only 13 years after founding — the youngest institution so honored in over 100 years. It is the only Jewish-founded, nonsectarian institution of higher learning in America and was named for United States Supreme Court Justice Louis Dembitz Brandeis (1856-1941).

Of the approximately 2,000 accredited colleges and universities in the nation, Brandeis is one of only 100 recognized as research universities. As such, Brandeis combines the breadth and range of academic programs usually found at much larger universities with the intimate educational atmosphere of an undergraduate college.

Brandeis University is accredited by the New England Association of Schools and Colleges, Inc. Originally accredited in 1953, Brandeis was approved in 1977 for continuing membership in the Association for ten years, the maximum period permissible.

A Brandeis education encourages personal fulfillment, but only within the framework of social responsibility. Equipped by a liberal arts education, the individual sees reality as a whole with many intricately connected parts. That individual rejects the idea that there is only one truth, one perspective, one redeeming set of values. Study of the arts and sciences is a time of inquiry, honest skepticism, and evolution of the intellect.

For full information on the undergraduate curriculum, see the Bulletin of the College of Arts and Sciences.

Brandeis University is a community of scholars and students united by their commitment to the pursuit of knowledge and its transmission from generation to generation. As a research university, Brandeis is dedicated to the advancement of the humanities, arts, social, natural, and physical sciences. As a liberal arts college, Brandeis affirms the importance of a broad and critical education in enriching the lives of students and preparing them for full participation in a changing society, capable of promoting their own welfare, yet remaining deeply concerned about the welfare of others.

In a world of challenging social and technological transformation, Brandeis remains a center of open inquiry and teaching, cherishing its independence from any doctrine or government. It strives to reflect the heterogeneity of the United States and of the world community whose ideas and concerns it shares. In the belief that the most important learning derives from the personal encounter and joint work of teacher and student, Brandeis encourages both undergraduates and postgraduates to participate with distinguished faculty in research, scholarship and artistic activities.

Brandeis was founded in 1948 as a nonsectarian university under the sponsorship of the American Jewish community to embody its highest ethical and cultural values and to express its gratitude to the United States through the traditional Jewish commitment to education. By being a nonsectarian university that welcomes students and teachers of every nationality, religion and political orientation, Brandeis renews the American heritage of cultural diversity, equal access to opportunity and freedom of expression.

The university that carries the name of the Justice who stood for the rights of individuals must be distinguished by academic excellence, by truth pursued wherever it may lead and by awareness of the power and responsibilities that come with knowledge.

As adopted at the meeting of the Board of Trustees, December 6, 1984.

# The Graduate School of Arts and Sciences

## History and Organization

The Graduate School of Arts and Sciences was formally established in 1953 when the university's Board of Trustees authorized graduate study in the departments of Chemistry, Music, Psychology, and Near Eastern and Judaic Studies. The general direction of the Graduate School is vested in a Graduate Council of the Faculty composed of the president and the dean of the faculty, ex-officio; the dean of the Graduate School; and one representative, usually the chair, of each of the several university departments and committees offering graduate instruction. The members of the Graduate Council are appointed by the president on the recommendations of the dean of the Graduate School. The functions of the Graduate Council, exercised in consonance with university policy, are to determine requirements for admission; to provide programs of study and examination; to establish and maintain requirements for graduate degrees; to approve candidacy for degrees; to make recommendations for degrees; to make recommendations for new areas of graduate study; to lay down such regulations as may be considered necessary or expedient for governing the Graduate School; and to exercise a general supervision over its affairs. The dean of the Graduate School is the chair of the Graduate Council and the chief executive officer of the Graduate School.

## Objectives

The underlying ideal of the Graduate School is to assemble a community of scholars, scientists, and artists, in whose company the student-scholar can pursue study and research as an apprentice. This objective is to be attained by individualizing programs of study, restricting the number of students accepted, maintaining continual contact between students and faculty, and fostering the intellectual potential of each student.

Degrees will be granted on the evidence of intellectual growth and development, rather than solely on the basis of formal course credits. Fulfillment of the minimum requirements cannot, therefore, be regarded as the sole requisite for degrees.

The Graduate School of Arts and Sciences is designed to educate broadly as it trains professionally. It offers courses of study leading to the master's and doctoral degrees.

## Areas of Graduate Study

During the academic year 1985-1986, graduate programs will be offered in the following areas:

1. Anthropology
2. Biochemistry
3. Biology
4. Biophysics
5. Chemical Physics
6. Chemistry
7. Comparative History
8. Computer Science
9. English and American Literature
10. History of American Civilization
11. Jewish Communal Service
12. Joint Program of Literary Studies
13. Mathematics
14. Music
15. Near Eastern and Judaic Studies
16. Photobiology
17. Physics
18. Politics
19. Psychology and Cognitive Science
20. Sociology
21. Theater Arts

## Graduate School

The Graduate School office is located in the Rabb Graduate Center. The office is open Monday through Friday from 9 A.M. to 5 P.M. All requests for information, catalogs and application forms should be addressed to the Dean of the Graduate School of Arts and Sciences, Brandeis University, Waltham, Massachusetts 02254-9110.

## University Library

The new Leonard L. Farber Library serves as the visual and academic focal point of the Brandeis University Libraries. Farber, along with the Jacob and Bertha Goldfarb Library and the Rapaport Treasure Hall comprise the main library which houses the collections supporting humanities, fine arts and social sciences. Gerstenzang Science Library, located within the science complex to allow convenient access by its users, contains the collections supporting the physical and natural sciences and mathematics.

The main library includes 850,000 books, 600,000 microtexts, 2,500 periodicals and 55 newspapers. Gerstenzang contains more than 100,000 volumes and subscribes to over 900 periodical titles.

The main library lists over 150,000 documents emphasizing labor, health, politics and statistics, including many census bureau publications, as well as the major collections

supporting humanities, fine arts and social sciences. In addition, a legal reference collection, encompassing *Corpus Juris Secundum*, U.S. laws, federal court decisions (Supreme, circuit and district), the *Federal Register*, the *Code of Federal Regulations*, *Massachusetts General Laws Annotated* and *Massachusetts Supreme and Appellate court decisions* enables users to conduct legal research on both state and federal levels.

Both libraries provide computer literature searching. The BRS (Bibliographic Retrieval Systems) and Lockheed's Dialog access over 175 different data bases.

The special collections section of the library, located in the Rapaport Treasure Hall, houses the rare books collection, the manuscript collections and a portion of the University Archives. Among the research collections are the Spanish Civil War collection; the Leonardo Da Vinci collection; the McKew-Par collection on Magellan and the Age of Discovery; and the Justic Brandeis collection.

The Judaica Department's reading room contains a collection of reference materials and basic texts in major areas of Judaic studies, the ancient Near East, and the modern Middle East.

The Creative Arts Center houses the collections and facilities in music and the fine arts. The Music and Fine Arts reference collections number more than 1,500 volumes and include all major indexes, abstracts, encyclopedias, dictionaries, and bibliographies. The musical score collection of over 12,000 volumes emphasizes scholarly editions in medieval, Renaissance, and baroque music, as well as an increasing collection of performance music of the twentieth century. The sound recording collection contains 13,000 discs, tapes and cassettes with facilities to accommodate 72 listeners.

The Gerstenzang Science Library is a reference and research facility for the university's science complex, providing materials for advanced independent work as well as supporting instructional programs.

Brandeis belongs to two library networks which provide users with materials the library does not own. The OCLC is a national network of more than 3,400 libraries with an on-line bibliographic data base of over 8,000,000 titles.

The Boston Library Consortium, of which Brandeis is a member, provides free interlibrary loans, a union list of serials, cooperative purchasing and borrowing privileges for graduate students and faculty. These services are available to all members of the Brandeis community. Books, journal articles, and other research materials not available in the library may be obtained through interlibrary loan or the consortium.

## Admissions

As a rule, only well-qualified men and women who have completed the normal four-year program leading to the bachelor's degree will be considered for admission to the Graduate School. Graduates of foreign schools and others who have completed the equivalent of a bachelor's degree program may apply, describing the educational program they have completed.

### Testing

Applicants for admission to the graduate programs in biochemistry, biophysics, politics, and psychology are required to take the Graduate Record Examination, including the aptitude test portion and preferably one advanced test in a field related to the proposed area of graduate study. Applicants for admission to the graduate program in psychology must also take the Miller Analogies Test. Applicants to the Jewish Communal Service program must submit the results of either the Graduate Record Examination or the Miller Analogies Test. All other applicants are urged to take the Graduate Record Examination. In order for the results of the Graduate Record Examination to be considered, the applicant should take the examination no later than January preceding the academic year for which application is made. Information concerning the Graduate Record Examination is available from the Educational Testing Service, Princeton, N.J. 08541, or Box 1025, Berkeley, Calif. 94704.

Foreign students, regardless of field of graduate study, are required to take the Test of English as a Foreign Language (TOEFL) unless English is their first language.

Applications for admission to the test should be made to TOEFL, Educational Testing Service, Princeton, N.J. 08541, U.S.A. The test is administered at various established centers abroad.

### Application

Specific requirements for each graduate program are to be found under the appropriate headings in this catalog. Each applicant should consult these requirements before filing an application. A student may apply to only one graduate department or program. Applicants to the Graduate School should write to the Dean of the Graduate School of Arts and Sciences, stating which program of study he or she wishes to enter. A catalog and appropriate forms will be forwarded to the applicant. The "Application for Admission" should be completed and returned in duplicate as soon as possible. Applicants requesting financial aid must file a GAPSFS form. Closing dates for receipt of applications by the several graduate departments are included with the application materials.

Applications for admission for the Spring Term must be filed by December 1. Students are not usually admitted at midyear, and those who do gain admission are not normally eligible for financial aid.

All applicants must arrange to forward, in duplicate, official transcripts of all undergraduate and graduate work. In addition, they must have forwarded, on forms provided by the Graduate School, two letters of recommendation, preferably from professors with whom they have studied in their proposed area of study. Applicants who have engaged in graduate study elsewhere should request at least one of the recommendations from a professor with whom they have done graduate work.

Many departments also require the submission of samples of work as well as the materials described above. Applicants should consult departmental requirements in a later section of this catalog for enumeration of additional materials to be submitted.

All applications must be accompanied by an application fee of \$25, payable by check or money order to Brandeis University. No application will be processed until this fee is paid.

### Admission Procedure

All applicants are considered on a competitive basis. The number of students admitted each year in each department is limited so that the Graduate School may operate effectively under its distinctive principles of individualized study and apprenticeship. Consequently, admission may sometimes be denied to qualified persons. Meeting the minimum standards of admission merely qualifies the applicant for a place in the group from which final selections will be made. Selections are based on the applicant's ability to do graduate work of high quality, as shown by: the distinction of his or her previous record, particularly in the proposed area of study; the letters of recommendation submitted in support of the application; and his or her presumed adaptability to the particular graduate programs offered by Brandeis University. In addition, knowledge of foreign languages, relevant practical experience in the field, samples of work, the results of the Graduate Record Examination, and indications of character are considered.

Each application for admission with all supporting records is first examined by the appropriate department or committee. The department or committee recommends to the Dean of the Graduate School which applicants should be selected for admission and for financial aid. The Dean reviews all applications in the light of departmental recommendations, and informs each applicant of the results in April.

### Acceptance

A student who has been accepted for admission to the Graduate School will be notified by a letter specifying the date by which he or she must accept the offer of admission and awards, if any. If a student selected for admission indicates that he or she does not intend to accept the offer or fails to reply by the date specified, the admissions offer becomes void and another applicant may be accepted.

Brandeis University subscribes to the "Resolution Regarding Scholars, Fellows, Trainees and Graduate Assistants" of the Council of Graduate Schools in the United States. The resolution states:

"Acceptance of an offer of financial aid (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment anytime through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

Students who are accepted must provide the Graduate School Office with an official final transcript of their undergraduate record and of any graduate work in process at the time of acceptance. In addition, students who are accepted are required to complete and return a medical questionnaire and a health insurance form, which will be sent during the summer. Registration is conditional upon receipt by the University Health Office of these required forms.

If, after having been admitted, a student cannot attend, he or she should notify the Dean of the Graduate School as soon as possible. If such students are to be admitted for a subsequent academic year, they must request reactivation of their applications at the appropriate time, and bring them up to date.

## Foreign Students

Applicants who have been denied admission may reapply in a later year, particularly if they have had further training which would strengthen their applications or if they can submit additional letters of recommendation.

Admission to the Graduate School does not imply that the successful applicant has been accepted as a candidate for a graduate degree. Superior performance at Brandeis University is essential. Admission to candidacy for the M.A. or M.F.A. is granted by the graduate department or committee administering the program of study. Admission to candidacy for the Ph.D. is granted by the Graduate Council on the recommendation of the department or committee administering the program of study.

### Readmission

Admission is valid only for one academic year. A student's record is reviewed annually, and he or she may be denied readmission. Students completing the requirements for the M.A. or M.F.A., and students who already hold a master's degree but who have not yet been admitted to candidacy for the doctorate, must make formal application for readmission by the first business day in March. The readmission application must be filed with the Graduate School Office.

Graduates of foreign colleges and universities who have the equivalent of an American bachelor's degree, and foreign students who have been graduated from American universities may compete for admission and financial assistance at Brandeis, which is authorized under Federal law to enroll nonimmigrant alien students.

In order to ascertain the eligibility of the candidate, Brandeis University requires that each applicant file a **Preliminary Request for Application** form obtained by writing to either the Graduate School of Arts and Sciences or the Office of International Programs any time before September 1 of the year preceding the anticipated admission date. This information will be evaluated and the application form itself will be sent to those who qualify.

Final applications must be completed and returned by February of the year in which the student seeks fall admission. Successful applicants will be notified as soon as possible.

**Entrance Examinations.** All applicants whose major language is not English must take the Test of English as a Foreign Language (TOEFL); thorough competence in English is required for study at Brandeis. All applicants are urged to take the Graduate Record Examination (GRE). They should consult this catalog for the departments which may *require* this examination. For information concerning the administration of both these examinations, applicants should write to the Educational Testing Service, Princeton, N.J. 08541.

**Financial Aid.** Financial aid in the form of scholarships, fellowships, teaching assistantships and research assistantships is available to only a few of the most outstanding students. In any case, the total assistance offered usually covers only a small proportion of the student's total annual expenses. Hence the students, when applying for admission, should indicate a means of financial support. At least \$4,000 in United States currency is necessary to cover living costs for the nine-month academic year, exclusive of expenses for tuition, travel and summer or vacation periods.

**Employment.** The regulations of the United States Immigration and Naturalization Service limit strictly the amount of paid work that a student from abroad may do. During the summer vacation, the Immigration Service may permit the student to obtain off-campus employment. Such permission cannot be guaranteed, however. Students must petition on special United States government forms, through the Office of International Programs, for permission to accept such employment.

## Requirements for the Degree

The following general requirements apply to the awarding of graduate degrees in all areas of study. For specific program requirements students should consult the appropriate section of this catalog.

### Master of Arts

In order to qualify for a master's degree, the student must complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of eight half-courses of approved study. Departments may, at their option, require more than eight half-courses of graduate study. Departments offering master's programs may require that the candidate demonstrate a reading knowledge of at least one foreign language and pass satisfactorily a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. Where a thesis is required for the master's degree, two copies must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

The master's degree must be earned within four years from the inception of graduate study at Brandeis University.

### Master of Fine Arts

In order to qualify for the degree of Master of Fine Arts in Music, the candidate must complete with distinction twelve half-courses at the graduate level, and must meet the specific requirements for the degree as set forth under the Music Department, **Requirements for the M.F.A. Degree**, in a later section of this catalog. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

In order to qualify for the degree of Master of Fine Arts in Theater Arts, the candidate must complete the equivalent of sixteen half-courses at the graduate level and must meet the specific requirements for the degree outlined under Theater Arts, **Requirements for the M.F.A. Degree**, in a later section of this catalog. Students enrolled for specialization in dramatic writing must submit two copies of a play in final form in lieu of a thesis.

The Master of Fine Arts degree must be earned within five years from the inception of graduate study at Brandeis University.

## Doctor of Philosophy

In order to qualify for the degree of Doctor of Philosophy, a student must ordinarily complete a minimum of three years of graduate study, including two full years of residence and a third year devoted to the preparation of a doctoral dissertation. Under certain conditions, credit for advanced standing will be granted for work taken in residence in graduate schools of other universities. Each department or committee reserves the right to require prospective candidates for the degree to perform work in excess of its minimum standards to assure thorough mastery of the area.

Prospective candidates must demonstrate proficiency in at least one foreign language. In all areas of study the student must satisfactorily pass a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. In addition, all prospective candidates must write a doctoral dissertation and defend it in a final oral examination.

To be eligible for the Ph.D. degree in any year, the student must have (1) been admitted to candidacy for the doctorate, (2) completed all residence requirements, and (3) passed all language and qualifying examinations, by the close of the semester preceding the semester in which the degree will be conferred.

Students entering Brandeis University with no previous graduate work must earn the doctorate within eight years from the inception of study. Students who are granted credit for a year of graduate work completed elsewhere must earn the degree within seven years from the inception of their study at Brandeis.

## Language Requirements

There is no University requirement for foreign language competency at either the master's or doctoral level.

Each department or program determines which languages are acceptable as satisfying its foreign language requirement. Some departments may not require foreign language competency, while others may set requirements which will vary within the sub-fields offered by those departments.

In departments where languages are required, students are expected to satisfy the requirement as soon as possible. Completion of this requirement at another university does not satisfy the Brandeis requirement.

For specific requirements of each department or program, consult the departmental listing in the following section of this catalog.

## Admission to Candidacy

A student who (a) has demonstrated a knowledge and mastery of the subject matter of the field at a level satisfactory to the department or committee; (b) has passed all departmental qualifying examinations; (c) has indicated a capacity for independent research of high quality; and (d) has satisfactorily completed all specific department or committee requirements for admission to candidacy may, at the recommendation of the department or committee, be admitted under the rules of the Graduate Council to candidacy for the degree of Doctor of Philosophy. In order to be eligible for the degree, the student must be admitted to candidacy at least one semester before it is awarded.

## Application for Graduate Degrees

Candidates for the M.A., M.F.A., and Ph.D. degrees must file with the Graduate School Office an application for the degree no later than December 1 for a February degree and no later than March 1 for a May degree of the academic year in which the degree is to be conferred. Upon the written recommendation by a candidate's department or committee that the application be approved, the record will be reviewed by the Graduate Council which recommends the student to the University's Board of Trustees for the degree. In case of failure or withdrawal from candidacy in any year, the student must reapply by filing a new application in a later year.

## Dissertation and Final Oral Examination

When a student is ready to embark upon the preparation of a doctoral dissertation, a Dissertation Reading Committee of no less than three faculty members, at least one of whom is a tenured member of the faculty, will be appointed by the chairman of the student's department. The student's principal adviser will serve as the chairman of this committee. The Dissertation Reading Committee will guide the research for and preparation of the dissertation. When this committee certifies its approval of the dissertation to both the Dean of the Graduate School and the chairman of the student's department, the latter, with the approval of the Dean of the Graduate School, will appoint a Dissertation Examining Committee to preside over the student's Final Oral Examination and will notify the candidate of the time and place of the Final Oral Examination at least three weeks prior to the scheduled date of the examination. Two copies of the dissertation, as well as an abstract of no more than 350 words, should be submitted to the Dissertation Reading Committee for approval. Style and format of dissertations are determined by the respective departments.

The dissertation, when approved by the readers, must then be deposited in the department office where it will be available for inspection by all interested members of the faculty for at least two weeks prior to the Final Oral Examination.

The department will publish in **The Brandeis Reporter** the time and place of a candidate's Final Oral Examination and the title of the doctoral dissertation. The Final Oral Examination will be open to any member of the faculty engaged in graduate instruction and to invited faculty members from other institutions.

The Dissertation Examining Committee, recommended by the department chairman and approved by the Dean of the Graduate School, must be composed of a minimum of three faculty examiners, at least one of whom shall be a tenured member of the faculty and one of whom shall be from a graduate department outside the student's own, though preferably from a related area.

The examination may be restricted to a defense of the dissertation, or may cover the whole field of the dissertation. The candidate will be notified by his or her department or committee of responsibility for coverage prior to the examination.

A report, signed by the Dissertation Examining Committee, certifying the candidate's successful performance on the Final Oral Examination, will be submitted to the Dean of the Graduate School.

## Deposit and Publication of Dissertation

No later than the dates specified in the current Academic Calendar for February and May degrees, the candidate must deposit two copies of the finished dissertation, including the original typescript, in a state suitable for microfilm and Xerox publication. Both copies of the dissertation must have the signed approval of the dissertation supervisor and readers. One copy will be retained by the library, the other will be returned to the student, both bound. The candidate must also submit two copies of an abstract of the dissertation, not exceeding 350 words, which has been approved by the dissertation supervisor.

A detailed statement of the Graduate School publication regulations is available from the Graduate School Office. See also the statement in this catalog, under **Fees**, on the Final Doctoral Fee.

# Academic Regulations

## Registration

Every resident student must register in person at the beginning of each semester, whether attending regular courses of study, carrying on research or independent reading, writing a thesis or dissertation, or utilizing any academic service or facility of the University. Students who have completed their residence requirements and who wish to utilize any academic service or facility of the University must also register.

There is a charge of \$10 if registration is not completed at the time specified in the Academic Calendar.

Registration consists of payment of all fees for the semester and filing a Registration Card and other duly completed required forms. Program Cards are filed at a later date.

## Program of Study

Before filing a Program Card, the student should plan a program of study in consultation with the chairman of the department. All courses for which the student registers for credit must be listed on the Program Card.

Audited courses must also be listed, noted as "audit," and the Program Card must be signed by instructors of such courses.

Graduate students may not normally register for an undergraduate course (numbered below 100) for degree or residence credit unless they secure the signed approval of both the instructor of that course and their department chairman. The student must then petition the Dean of the Graduate School for the desired credit, and must receive approval before or at the time of registration. Credit will not be given for undergraduate courses taken to make up deficiencies in the student's preparation for a graduate program of studies, nor will credit ordinarily be given for language courses that are not part of the student's program of studies. Under no circumstances may a student receive credit toward completion of degree or residence requirements for courses undertaken to aid in the completion of language requirements. Scholarship students may not apply their scholarships toward the remission of tuition for undergraduate courses taken to remedy deficiencies. The completed Program Card must be signed by the department chairman before submission at registration, and the department chairman will certify whether the program of study is full-time or part-time and, if part-time, whether one-quarter, one-half, or three-quarters time. Full-year courses must be re-entered at midyear. Students wishing to drop a full-year course at midyear must petition the Dean of the Graduate School for permission, after receiving the written approval of

the instructor of the course and of the chairman of their department. Students may not register at midyear for a full-year course without the written approval of the instructor of the course and their department chairman.

Program Cards are filed approximately two weeks after the opening days of instruction (see Academic Calendar for specific date) and are considered to be final.

## Auditing Courses

The privilege of auditing courses without fee is extended to all regularly enrolled graduate students except special students. Special students may audit courses by paying for them at the same rate as those taken for credit. No courses may be audited without the permission of the instructor. Auditors may not take examinations or expect evaluation from the instructor. No credit is given for an audited course.

## Change of Program

Only under unusual circumstances are students allowed to drop courses after filing their Program Cards. To do so, a Course Change Card is obtained from and returned to the Graduate School Registrar. Courses must be dropped no later than one week prior to the beginning of an examination period. Each course dropped is subject to a \$10 fee.

## Registration in Terms of Time

Advanced students — those who have completed two full years of residence, either by graduate work at Brandeis or by receiving credit for graduate work done elsewhere — may register in terms of time, subject to the signed approval of their department chairman. Their Program Cards must indicate that they are registering full-time or a specific fraction thereof (one-quarter, one-half, or three-quarters).

Registration in terms of time is a device that helps to individualize programs of study and permits increased freedom for independent research for advanced graduate students. Registration in terms of time frees students to pursue a program of study that partially accepts or bypasses altogether the system of formal courses, although students registering in terms of time will usually register for an advanced research or dissertation course. Their time will be spent in such research and reading as will be most beneficial to their development as scholars.

## Absence from Examinations

Students who are absent from a midyear or final examination without an accepted excuse will receive a failing grade for that examination. No students may be excused from such examination unless for emergency or medical reasons, nor may they be excused if they were able to notify the instructor in advance and failed to do so. Cases involving absence are referred to the chairman of the department who will decide whether a make-up examination shall be allowed, and who will notify the Dean of the Graduate School. The examination must be taken within six weeks of the opening of the next semester.

## Grades and Course Standards

Graduate students are expected to maintain records of distinction in all courses. Letter grades will be used in all courses in which grading is possible. Courses graded "non-credit" are those which carry no credit but which are required of the student. In thesis or research courses, if a letter grade cannot be given at the end of each semester or academic year, "Credit" or "No Credit" may be used.

"No Credit" and any letter grade below B-minus are unsatisfactory grades in the Graduate School. A course in which the student receives an unsatisfactory grade will not be counted toward graduate credit.

At the end of each academic year the Registrar of the Graduate School will issue to each student a report of grades and of degree requirements satisfactorily completed.

## Incompletes

A student who has not completed the research or written work for any course may receive a grade of "Inc." (incomplete) or a grade of failure at the discretion of the instructor in the course. A student who receives a grade of "Inc." must satisfactorily complete the work of the course in which the "Inc." was given in order to receive credit for the course and a letter grade. An "Inc.," unless given by reason of the student's failure to attend a final examination, must be made up no later than the end of the term following the term in which it was received. When failure to take a final examination has resulted in an "Inc.," resolution of that grade to a letter grade must occur within six weeks of the beginning of the next semester. If a student requires additional time to settle an incomplete grade, he or she may petition the Dean of the Graduate School for an extension of time, provided the petition is signed by the instructor of the course and by the department chairman. Such a petition must be filed prior to the expiration of the deadline for making up an incomplete.

## Credit for Work Done Elsewhere

Graduate level courses taken prior to matriculation at Brandeis University may not be counted toward fulfillment of the residence requirement for the Master of Arts degree, although a department may accept work taken elsewhere in partial fulfillment of specific course requirements for the degree. In that case, additional courses are designated to replace courses from which the student has been exempted.

A maximum of one term of residence credit for graduate level courses taken prior to matriculation may be counted toward fulfillment of the residence requirements for the Master of Fine Arts degree.

Students admitted to Ph.D. programs may file an application to have graduate level courses taken prior to matriculation counted toward fulfillment of residence requirements at this institution. A maximum of one year of residence credit may be granted.

Applicants for transfer credit will not necessarily be granted the credit requested. Each department reserves the right to require of any student work in excess of its minimum standards to assure thorough mastery of the area of study. In all cases, courses being transferred must carry a grade of "B" or better and must have been earned at an appropriately accredited institution.

After completing one term of residence at a full-time rate, or the equivalent at a part-time rate, students eligible to apply for transfer credit may do so. Forms are

obtained at the Graduate School Office and are submitted to the student's department for its approval. The form is then forwarded to the Dean of the Graduate School for final approval. The Dean will advise the applicant of any action taken.

Credit for work at another institution taken concurrently with studies in the Graduate School must be approved for potential transfer credit by both the student's department and the Dean of the Graduate School prior to registration for such courses. Such approval is granted only in unusual circumstances. Students who formally cross-register with Boston College, Boston University and/or Tufts University through the Consortium do not need prior approval.

## Residence Requirements

Residence requirements for all graduate degrees are computed by determining the amount of registration for credit and the tuition charges. Part-time students and teaching assistants pursuing part-time programs of study for credit complete their residence requirements when their fractional programs (one-quarter, one-half, three-quarters) total the amount required of a full-time student.

### Master of Arts

The minimum residence requirement for all students is one academic year on a full-time graduate credit program at the full tuition or the equivalent thereof in part-time study. Transfer credit may not be applied to residence requirements for the Master of Arts degree.

### Master of Fine Arts

The minimum residence requirement for all students in Music is three semesters at a full-time rate, at the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

The minimum residence requirement for all students in Theater Arts is four semesters at a full-time rate, at the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

### Doctor of Philosophy

The minimum residence requirement for all students is two academic years on a full-time graduate credit program for each year, at the full tuition rate for each year, or the equivalent thereof in part-time study. A maximum of one year's approved transfer credit may be granted toward residence for the Ph.D. degree.

## Full-Time Resident Students

A full-time student is one who devotes the entire time, during the course of the academic year, to a program of graduate work at Brandeis University, to the exclusion of any occupation or employment. In exceptional cases, however, a student may accept outside employment with the approval of the department chairman.

A full-time program may include a combination of teaching and research assistance, work leading to the fulfillment of degree requirements, such as preparation for qualifying, comprehensive, and final examinations, or supervised reading and research, or the writing of M.A. theses and Ph.D. dissertations, as well as regular course work.

A full-time resident student may take as many courses for credit in any semester as are approved by the department chairman, but no student may receive credit for, or be charged for, more than a full-time program in any semester. Thus the minimum residency requirement for any degree may not be satisfied by an accelerated program of study or by payment of more than the full-time tuition rate in any single academic year.

Ph.D. candidates and students for whom the M.A. and M.F.A. degrees are terminal degrees may continue as full-time students on completion of their residence requirements by registering at the post-residence fee rate (See p. 12).

## Part-Time Resident Students

A part-time student is one who devotes less than the entire time to a program of graduate work at Brandeis University. Students may register for a credit program of one-quarter, one-half, or three-quarters time. A part-time student may engage in outside employment with the permission of the department chairman.

Students wishing to pursue part-time residence study leading to a graduate degree must explain in writing, at the time they seek admission, why full-time study is not possible. Students receiving financial aid from the University, who wish to change their status from full-time to part-time residency, must file with the Graduate School Office an explanation of why full-time study is no longer possible.

## Post-Resident Students

A graduate student who has completed residence requirements and who registers in order to utilize academic services or University facilities while completing degree requirements is a post-resident student.

## Fees and Expenses

### Special Students

Properly qualified persons who wish to audit or to take courses without working for a degree will be admitted. Special students are not eligible for University loans, scholarships, fellowships, teaching or research assistantships, nor will they be considered for resident scholarships. Special students who later wish to change their status to that of part-time or full-time students working for a degree must apply for admission as resident students. They must also file a special petition if they wish credit to be accepted for any courses taken at Brandeis as special students. Credit for such course work may be granted in exceptional cases.

### Leave of Absence

Students who have not completed their residence requirements may petition for leave of absence. The petition must have the approval of both the chairman of the department and the Dean of the Graduate School. Leaves of absence up to one year will normally be granted to students in good academic standing who present compelling personal reasons or need to do work off campus in connection with their graduate studies. Time spent on authorized leaves of absence will not be deducted from the maximum time permitted to complete degree requirements.

If for any reason a student must extend a leave of absence, he or she must request such extension in writing before the leave of absence expires. Failure to do so will result in being automatically dropped from the Graduate School roster.

### Continuation

Graduate students who have completed residence requirements and who are not registered during the period in which they are completing degree requirements are considered Continuation Students. A student in this category is not eligible for a leave of absence, except for reason of ill health. (See Fees, p. 12).

### Withdrawal

A student who wishes to withdraw from the Graduate School at any time before the end of the academic year must give immediate written notice to the department chairman and to the Dean of the Graduate School. Failure to comply may subject the student to dishonorable discharge, refusal of readmission, cancellation of the privilege of securing an official transcript and, in the case of a student withdrawing within 30 days of the beginning of classes, loss of eligibility for partial refund of tuition. Such a student must

pay tuition for the full semester. Permission to withdraw will not be granted if the student has not discharged all financial indebtedness to the University or has not made arrangements for subsequent payment to the satisfaction of the controller's office.

### Discipline

The disciplinary authority of the University is vested in the President of the University and, subject to his reserved powers, in the Dean of the Graduate School of Arts and Sciences and in the principal administrative officers, including the chairmen of the several graduate programs, in all cases involving graduate students.

Original jurisdiction in any case involving infraction of any rule or regulation or standard of conduct by a graduate student shall lie within the administrative officer of the University who is immediately concerned. Serious cases will be referred for hearing to the Disciplinary Committee of the Faculty Council of the Graduate School of Arts and Sciences, chaired by the Dean of the Graduate School. The chairman of the student's department shall be invited to attend any meeting at which such a case is discussed.

The Graduate Student Council has been invited to elect annually one graduate student from the School of Social Sciences, one student from the School of Science, and one student from the Schools of Creative Arts and Humanities, together to comprise a panel of three, who may form the Graduate School's Committee on Discipline to consider disciplinary cases involving non-academic offenses when the student who is being considered for discipline so requests.

### Exclusion, Dismissal or Expulsion

The University reserves the right to dismiss or exclude at any time any student whose character, conduct, academic standing or financial indebtedness it regards as undesirable, through disciplinary procedures established in the Graduate School. Neither the University nor any of its trustees or officers shall be under any liability whatsoever for its disciplinary action, exclusion or dismissal.

The University also reserves the right to revoke, cancel or reduce at any time any financial or honorific award made to any graduate student, for character, conduct, academic standing or financial indebtedness regarded by the University as undesirable; neither the University nor any of its trustees or officers shall be under any liability whatsoever for cancelling, revoking or reducing any award.

Payment of tuition and other fees due on the day of registration is a part of the registration procedure. A student who is not prepared to pay such fees on the day of registration will be refused the privilege of registration.

A student who defaults in the payment of indebtedness to the University shall be subject to suspension, dismissal, and refusal of a transfer of credits or issuance of a transcript.

Such indebtedness includes, but is not limited to, delinquency of a borrower in repaying a loan administered by the Student Loan Office, and the inability of that office to collect such a loan because the borrower has discharged the indebtedness through bankruptcy proceedings. If the student is a degree candidate, his or her name will be stricken from the rolls.

A student who has been suspended or dismissed for nonpayment of indebtedness to the University may not be reinstated until such indebtedness is paid in full.

**Application Fee:** \$25. Payable by all applicants for admission at the time the application for admission is submitted. It is not refundable. Checks and money orders should be made payable to Brandeis University. No application for admission will be processed until this fee is paid. This fee is not required of Brandeis graduates.

**Tuition Fee:** The fees for tuition in the Graduate School for 1985-86 are as follows:

Full-time resident students: \$10,150 per year, or \$5,075 per term.

Part-time resident students:	Per Term	Per Year	Fraction	Program of Study
	\$3,806.25	\$7,612.50	Three-quarters	
	\$2,537.50	\$5,075.00	One-half	
	\$1,268.75	\$2,537.50	One-quarter	

Special Students: \$1,270.00 per course per term.

In view of the constantly increasing costs of education, students may expect one or more tuition increases during their academic careers.

**Post-Residence Fee:** Students who have completed their residence requirements and who wish to continue in residence to utilize any academic service or University facility must register at the usual tuition rates. Graduate students whose tuition is not being paid from scholarship or fellowship funds awarded by the University or other sources may petition the Dean of the Graduate School for a reduction of the post-residence fee to \$725. Students who continue to utilize any academic service or University facility after having completed residence, but who have failed to register, are subject to disciplinary action by the Dean of the Graduate School. A student who is eligible for registration on the post-residence basis may file a Program Card for full-time study, in terms of courses or in terms of time or any combination thereof, provided the department chairman approves of the program of study as being a full-time program and signs the Program Card.

**Mixed Tuition Fee:** In the event that a student needs to register for only a part-time program (one-quarter, one-half, or three-quarters) in order to complete residence requirements, but wishes to register for additional courses or take a fuller program of study, he or she shall be charged for the part-time program needed to complete residence, plus the post-residence fee.

**Late Registration Fee:** \$10. Payable for failure to complete registration at the time announced by the Graduate School Office.

**Orientation Fee:** \$5. A one-time fee payable by students entering for the first time.

**Change-of-Program Fee:** \$10. Payable by any graduate student who wishes to drop or add a course after filing Study Cards.

**Incomplete Records Fee:** \$25. Payable for failure to complete administrative requirements by date(s) specified in the Academic Calendar and/or Catalog (e.g., late filing of Health Examination Report, failure to register, etc.).

**Continuation Fee:** \$20. Payable annually by graduate students who have completed residence requirements and who are not registered during the period in which they are preparing for the completion of degree requirements. Students in this category are not eligible for leaves of absence.

**Master's Fee:** \$50. A candidate for the M.A. or the M.F.A. who is subject to the Continuation Fee and who earns a degree in any semester following one in which he or she has not been in residence, shall pay the Master's Fee. The fee is chargeable only once.

**Final Doctoral Fee:** \$250. This fee covers all costs for the year in which the Ph.D. degree will be conferred, including the costs for the microfilm publication of the dissertation, publication of the abstract of the dissertation in *Dissertation Abstracts*, issuance of a Library of Congress number and appropriate library cards, binding two copies of the dissertation, one for use in the University Library, and one Xerox-printed copy in book form for the author. The Final Doctoral Fee covers the rental expenses for academic robes for graduation and the cost of the diploma. Students who have been in residence in their final year may deduct any tuition charges which they may have paid to the University in that final year. Students who have paid the Continuation Fee in the final year may deduct that fee from the Final Doctoral Fee.

**NOTE:** All candidates for the Ph.D. degree must pay the \$250 Final Doctoral Fee prior to the receipt of their degrees.

**Reinstatement Fee:** \$10. Payable by a student who, after withdrawal, suspension or dismissal, has been reinstated with the consent of the Dean of the Graduate School.

**Transcript Fee:** \$2. Students, former students, and graduates who request official transcripts of their records in the Graduate School are charged \$2 for each copy issued after the first one, which is free. Requests by mail for transcripts must be accompanied by a check in the correct amount, payable to Brandeis University. Transcripts will be issued only to those students whose university financial records are in order.

**Diploma Fee:** \$15. Payable by candidates for the M.A. and M.F.A. degrees.

**Student Health Services Fee:** \$200. Entitles the graduate student to use of the Health Services.

**Student Insurance Fee:** \$255. Payment of the Insurance Fee entitles the graduate student to participate in the benefits of the Health Insurance Program. The fee is payable at registration and no portion is refundable. Student insurance is optional for Special Students.

**Dependent Insurance Coverage:** Although the health services offered at Stoneman Infirmary are not extended to dependents of students, an optional family health insurance plan is available to married students for a fee of \$700. Special Students are not eligible for this plan.

**Parking Fee:** \$5-\$35. Payable annually at fall registration for privilege of parking an automobile on campus. Fee varies with assigned parking area.

## Refunds

The only fee which may be refundable, in part, is the tuition fee. No refund of the tuition fee will be made because of illness, absence or dismissal during the academic year. If a student withdraws, he or she may petition the Dean of the Graduate School for a partial refund of tuition in accordance with the following:

### 1. Tuition:

Withdrawal: before the opening day of instruction: 100% of semester tuition. On or before the second Friday following the opening day of instruction: 75% of semester tuition.

On or before the fifth Friday following the opening day of instruction: 50% of semester tuition.

After the fifth Friday following the opening day of instruction: no refund.

**2. Scholarship:** In the case of a scholarship student who withdraws, the student's account will be credited with the same proportion of the semester scholarship as charged for tuition: 25% if the student leaves on or before the second Friday; 50% on or before the fifth Friday; and, 100% thereafter. The balance of the scholarship will be cancelled.

All refunds are subject to review and final approval by the University Controller.

## Financial Assistance

To help students whose records indicate scholarly promise, the University makes available special scholarships and fellowships and a variety of awards and work opportunities. No student is eligible for aid without filing with the Graduate School Office a standard financial aid form (CAPSFAS). All scholarships and fellowships are granted for one academic year; therefore, a registered student who holds a scholarship or fellowship must apply annually for a renewal by filing the "Application for Financial Assistance."

All awards are granted and accepted with the understanding that they may be revoked or reduced at any time for undesirable conduct or poor academic standing.

Ordinarily, no student may hold a fellowship, scholarship, or teaching assistantship for more than two years of study for the M.A. degree, for more than three years of study for the M.F.A. degree, or for more than four years of study for the Ph.D. degree. Ordinarily, no student may receive a scholarship, fellowship, or teaching assistantship after one year of study at the post-residence fee. Priority in making awards is given to full-time students and teaching assistants.

In the case of a student receiving financial aid from Brandeis University, whether in the form of a teaching assistantship, scholarship or fellowship, the approval of the Dean of the Graduate School is required, in addition to the approval of the department chairman, before the student may engage in outside employment.

### Scholarships

A scholarship is an award, on grounds of scholarly ability and need, of financial credit that will be used exclusively for remission of tuition fees. Full scholarships and partial scholarships are available. Scholarship students are liable for all but tuition charges.

### Fellowships

A fellowship is an academic award of honor to outstanding students of good character to help them in furthering advanced study and research. The amount of the stipend depends on the quality of the student's record and performance; need is also considered in most cases. A fellowship recipient must pay tuition fees unless the award includes a scholarship in an amount covering tuition. No services are required of students for fellowship or scholarship awards.

### Teaching Assistantships

Teaching assistants are resident students in the Graduate School who do part-time teaching as part of their training and are paid. The University has established teaching assistantships to enable distinguished graduate students to gain teaching experience while continuing their studies. Teaching assistants are eligible for other awards, including scholarships and fellowships.

Teaching assistantship appointments are made on the authority of the President of the University by the Dean of the Graduate School who, in turn, acts on the recommendation of a student's department chairman. Appointments are made for periods of one year or one semester, but are renewable. All awards of teaching assistantships to incoming students are conditioned on an interview with a University representative, prior to registration. The University reserves the right to terminate any appointment at any time for cause. Conduct, character or academic standing that is regarded as undesirable may constitute cause, but the University need not assign any reason for the termination of an appointment at any time. All teaching assistantship appointments are made and accepted with this understanding, and neither the University nor any of its trustees or officers shall be under any liability whatsoever for the summary termination of a teaching assistantship.

### Research Assistantships

Research assistantships are available in the science areas. First-year graduate students are not normally eligible for appointment. Application should be made to the chairman of the department or the committee administering the graduate program.

### Loans

Guaranteed Student Loan Program (GSLP). A student may be eligible for a guaranteed student loan if he or she meets the following requirements: (1) is accepted for enrollment or is attending Brandeis University and is in good standing as determined by the University; (2) is carrying at least one-half the normal full-time work load; (3) is a citizen or national of the United States or is in the United States for other than a temporary purpose; (4) can demonstrate need. An eligible student may be able to borrow up to \$5,000 in any academic year at a 9% interest rate, and does not have to begin repayment until six months after he/she ceases to be at least a half-time student. The total amount a student may borrow under the Guaranteed Student Loan Program, including both undergraduate and graduate school loans, may not exceed \$25,000. Special Students are normally ineligible for such loans.

Information and applications for this program are available from banks, savings and loan associations and credit unions.

Students who plan to borrow through one of the participating sources must have on file at the Graduate School Office a current Graduate and Professional Student Financial Aid Service form (GAPSFAS). Forms may be obtained at the Graduate School Office or from the Educational Testing Service, Princeton, N.J. 08541

### Resident Counselorships

A limited number of positions is available for both married and unmarried men and women as counselors in the University residence halls. Applications may be obtained from the University Housing Office and should be returned no later than March 15. Appointments are made by the Director of University Housing on or about June 1.

### Office of Student Employment

The Office of Student Employment assists students who need and desire part-time work. Students seeking part-time work should register with the Office of Student Employment. New students are not assigned part-time work prior to arrival on campus.

## Student Services

### Housing

Brandeis University has a limited number of apartment units available for single and married graduate students. All apartments are within easy walking distance of the campus. These include efficiency, one and two bedroom *unfurnished* apartments as well as efficiency and one bedroom *furnished* apartments. Single students may rent a space in an apartment and request the Graduate Housing Office assign a roommate. The one bedroom apartments are particularly designed to allow use as two separate bedrooms with a common kitchen and bathroom. Early application for housing is encouraged.

Information, rental rates and copies of the housing contract may be obtained by writing to the Office of Residence Life and University Housing, Brandeis University, Waltham, Massachusetts 02254-9110.

In addition, the Graduate Housing Office maintains Off-Campus Housing Services (OCHS). OCHS has extensive listings of available housing in the area, a list of realtors who may be helpful in a search for housing, and descriptions and information about nearby neighborhoods and towns. OCHS does not serve as a real estate agent, but rather as a resource to help in locating housing.

### Dining Facilities

Graduate students may sign meal contracts for varying numbers of meals or buy cash meal books. Arrangements for these contracts are made at the Food Director's Office in Kutz Hall. A kosher kitchen is also maintained. Individual meals and light snacks may be purchased at Usdan Student Center.

### Health Services

Because health and medical care are an integral part of the University experience, the University Health Services provides a program of comprehensive medical and emotional care. An optional Health Participation Fee entitles students to medical services available at Mailman House without additional charge during the academic year. The annual health fee does not pay for off-campus medical consultations, dental care, medications, laboratory tests, drugs, x-rays, reusable supplies or admission to the University's hospital, Stoneham Infirmary, and students are responsible for these charges.

In addition, each student is required to have personal health insurance. The student may elect to participate in the Student Health Insurance Plan offered through the University, underwritten by the Boston Mutual Life Insurance Company, or may substitute membership in another plan.

Except for limited day care facilities, the Health Services and the use of the Stoneham Infirmary are available to students only during the period in which the University is in regular academic session.

Prospective students planning to matriculate in the college and graduate schools must submit a Health Examination Report completed by the family or personal physician prior to registration. In addition to information about previous health and details of the physical examination, evidence of immunization against tetanus, polio, measles, mumps and rubella are required. Since students may not register until the requirements have been satisfied, it is strongly recommended that the Health Examination Report be submitted by July 1.

The Student Health Insurance Plan is designed to defray expenses of those situations which are beyond the scope of the Health Services; for example, laboratory and x-ray examinations, as well as hospitalization for illnesses or accidents of a more serious nature. The Plan extends for a full calendar year commencing with the first day of the academic year.

A detailed brochure of the services offered by the University Health Services as well as an outline of the details of the Plan is mailed to students. Students and parents are urged to read this brochure carefully and keep it for reference. This brochure includes a statement of patients' rights in Health Services.

Whereas situations not covered within the Health Services or by the Insurance Plan are infrequent, in awareness of these possibilities will lessen misunderstanding and disappointment.

In such instances, students and their parents are responsible for expenses which are not covered by the University's health program or its associated insurance policy. Similarly, students and their parents are responsible for expenses which are not covered by alternative insurance programs substituted for the Brandeis University Student Health Insurance Plan.

### Psychological Counseling Center — Mailman House

The Psychological Counseling Center, a part of the University Health Services, is located in Mailman House. At the Center, a professionally trained staff provides a range of counseling and psychological services designed to enhance personal development of students and to assist those who are experiencing personal or emotional problems. Individual counseling and brief psychotherapy are available both to undergraduate and graduate students; group therapy is also available on a limited basis. Students can make an appointment to see a counselor by applying directly to the Counseling Center office on the second floor of Mailman House.

### Office of International Programs

This office serves as the counseling center for students who come here from other countries. It advises students of special social and educational activities and provides assistance in fulfilling the legal procedures required by the U.S. Immigration Service to obtain working permits and documents necessary for extended periods of study, and in other technical matters which may arise (See Page 7).

In addition, the office provides the Brandeis community with information on academic opportunities abroad such as Fulbright grants for graduate students and faculty, the Watson Fellowships and Rhodes Scholarships for seniors being graduated, the Abram L. Sachar International Fellowship Program, and the Jacob H. H. Institute for study in Israel. American students wishing to study abroad on University-accredited programs should consult this office.

## Academic Schools and Institutes

### Crown School of Graduate Studies in American Civilization

The school's primary objective is to support gifted students in their work toward a doctorate in the History of American Civilization. Crown Fellowships are granted occasionally to special students on the Brandeis campus from both the United States and abroad who are drawn from important facets of public life including the media and the foreign service.

### Danielsen School of Philosophy, Ethics, and Religious Thought

The school includes the Department of Philosophy, which places traditional emphasis on logic, epistemology, metaphysics, value theory and the history of philosophy. The advancement of philosophical thought in the context of contemporary issues is encouraged through scholarly and interdisciplinary approaches. One of several endowed professorships in the school is the Albert V. Danielsen Chair in Christian Thought.

### Fierman School of Chemistry

The school incorporates graduate and undergraduate programs, offering highly diverse and advanced research activities as well as lecture programs and colloquia. The school has been aided by grants from the National Institutes of Health, National Science Foundation, Energy and Research Development Administration, Research Corporation, and Petroleum Research Foundation. Research conducted under these agencies has been published in over 700 papers in leading professional journals.

### Fisher School of Physics

The school encompasses both theoretical and experimental physics on the graduate and undergraduate levels and provides a setting for lectures and colloquia. Grants from agencies including the National Science Foundation and the Atomic Energy Commission support research programs in the Fisher School.

### Kutz School of Biology

The school embodies the University's undergraduate and graduate biology departments. The curriculum is designed to teach at the molecular and cellular levels, and to present a comprehensive body of courses with special attention to current discoveries and experimentation. Students are encouraged to engage in original research and independent study. A major portion of the governmental, industrial, and private

research grants awarded to Brandeis is devoted to varied projects in biology and health sciences.

### Low School of Near Eastern and Judaic Studies

The school encompasses an intensive teaching and research program in all the main areas of Judaic Studies, the Ancient Near East and the Modern Middle East. In addition, the Low School has programs which prepare students for Jewish communal service and programs of research in areas of direct concern to the American Jewish community.

The Department of Near Eastern and Judaic Studies is the primary teaching and research unit in the Low School. In this department the university has assembled an unusual array of distinguished scholars who offer an extremely broad curriculum. A second unit in the Low School is the Benjamin S. Hornstein Program in Jewish Communal Service which provides graduate education for students interested in professional careers in Jewish communal service and Jewish education. The school also includes the Center for Modern Jewish Studies which is devoted to the study of contemporary Jewish life. The center currently engages in research and teaching in three major areas: population studies, Jewish identity, and the family.

### Benjamin Michtom School of Computer Science

The school encompasses a recently expanded, state-of-the art, computer science program incorporating undergraduate and graduate instructional and internationally recognized research programs in the areas of computer science of theory, languages, systems, and artificial intelligence. The computer science department, interdisciplinary in setup, fosters links on campus between the Mathematics and Physics departments as well as the newly created Cognitive Science Program.

### Rosenstiel Basic Medical Sciences Research Center

The center is one of the nation's leading centers for research programs in the basic medical sciences embracing work in biochemistry, biology, chemistry, microbiology, physics, biophysics and immunology. Staff members are jointly appointed to the Brandeis faculty basic science departments. The center invites participation of distinguished scholars and medical scientists, offers hospitality to younger researchers at the undergraduate and fellowship level, sponsors symposia and colloquia and underwrites scholarly publications.

The Rosenstiel Basic Medical Sciences Research Center contains sophisticated scientific equipment and facilities. Through cooperative programming, both with departments at Brandeis and in the Boston area, the center has broadened the scope of basic medical science research offerings at Brandeis. Grants from such agencies as the National Science Foundation, National Institutes of Health, and American Cancer Society, among others, support research programs in the Rosenstiel Center.

The center sponsors the annual presentation of the Lewis S. Rosenstiel Award to recognize distinguished work in basic medical research.

### Swig School of Political Science

The school, which includes the University's Department of Politics, offers a wide range of courses in American government, international relations, theory, methodology, and comparative politics.

Several endowed academic chairs in the school include the Harry S. Truman Chair in American Civilization; the Earl Warren Chair in American Constitutional Studies; the Christian A. Herter Chair in International Relations; and the Adlai E. Stevenson Chair in International Politics.

### The Tauber Institute for the Study of European Jewry

The Tauber Institute is an independent, multidisciplinary research institute that seeks to set into the context of modern history the causes, nature and consequences of the crisis of European society in the second quarter of the twentieth century with a particular focus on the origins of the European Jewish catastrophe. The institute undertakes research into broad aspects of modern European intellectual, diplomatic, social, and political history. Among the areas of study with which it is concerned are: nationalism and racialism in modern Europe, European Jewish history since the Enlightenment, refugee problems, and the roots and development of Nazism, fascism, and anti-Semitism. The institute is engaged in both research and teaching. Its government includes a distinguished Board of Overseers. Distinguished scholars are invited to visit the institute. It also awards fellowships for advanced doctoral study and for postdoctoral research. Lectures, symposia and conferences are arranged under the auspices of the institute which initiates and sponsors major research projects.

## Areas of Study and Courses — 1985-1986

All courses meet for three hours a week unless the course description indicates otherwise. The presence of "a" in the course number indicates a half course given in the Fall Term; "aa" indicates a full course given in the Fall Term; "b" indicates a half course given in the Spring Term; "bB" indicates a full course given in the Spring Term; "aR" indicates a course given in the Spring Term; "bR," a course given in the Fall Term which is identical with an "a" or "b" course of the

same number given in the Fall and Spring Terms respectively; the use of "c" after a course number indicates that the course is given as a half course but meets throughout the year.

Course not offered for 1985-1986.

The University reserves the right to make any changes in the offerings without prior notice. Faculty and course listings are accurate as of June 1, 1985.

## American Civilization

See History of American Civilization.

## Anthropology

### Objectives

The graduate program in anthropology, leading to the degree of Doctor of Philosophy, is designed to produce scholars who will broaden our knowledge of culture and society. Admission is limited to students whose primary interests lie within the fields of social and cultural anthropology or archaeology. Most graduates of the program accept appointments at colleges and universities, although a number take employment in government, private institutions or foundations. Intensive training for independent research is stressed, with particular emphasis on comparative studies and fieldwork.

### Admission

The general requirements for admission to Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Students need not have an undergraduate major in anthropology or sociology-anthropology. If admitted, however, the student without previous training in anthropology may be required to take additional courses, as determined by the department, to complete his or her residence requirements. Students should have a reading knowledge of one foreign language.

### Faculty

Associate Professor **David E. Jacobson**, Chair: Social anthropology. Medical anthropology. Support systems. U.S.A. Africa.

Professor **George L. Cowgill**: Mathematical and computer methods in archaeology. Mesoamerican civilizations. Origins of early states. Population anthropology.

Professor **David Kaplan**: Economics. Method and theory. Peasant cultures. Middle America.

Professor **Marguerite S. Robinson**: Social organization. Anthropology and public policy. Rural development. South and Southeast Asia.

Associate Professor **Robert C. Hunt**: Social anthropology. Modernization. Irrigation agriculture. Mesoamerica.

Associate Professor **Judith T. Irvine**: Ethnography of communication. Linguistics. Social stratification. Africa.

Associate Professor **Benson Saler**: Comparative religion and folk philosophies. Psychological anthropology. Mesoamerica. South America. Pastoral peoples.

Associate Professor **Robert N. Zeitlin**: Sociocultural evolution. Prehistoric exchange. Pre-state societies. Archaeological method and theory. Mesoamerica.

Assistant Professor **D. Neil Gomberg**: Physical anthropology. Comparative anatomy. Primate studies. Human evolution.

Assistant Professor **Judith F. Zeitlin**: Cultural ecology. Archaeological method and theory. Mesoamerica. Ethnohistory.

Lecturer **David W. Murray**: Social and cultural anthropology. Symbolic anthropology. Cross-cultural child psychology. Linguistics. North American Indians. Europe.

### Research Associates

**George N. Appell**: Social anthropology. Southeast Asia.

**Clemency Coggins**: Prehistoric art and archaeology of Mesoamerica, lower Central America and Peru.

**Michael Folsom**: Industrial archaeology. New England.

**Charles A. Ziegler**: Industrial and applied anthropology.

## Degree Requirements

### Master of Arts

Ordinarily students are admitted for the doctoral program only. However, the Master of Arts degree in anthropology will be awarded to those students who have successfully fulfilled the minimum residence requirements set by the Graduate School and have met the following requirements: 1) Of the eight half-courses to be completed satisfactorily, one must be the first segment of the linguistics sequence, and one must be either of the special graduate courses in archaeology or physical anthropology; 2) If the student will not be continuing toward a Ph.D., he or she must also pass an M.A. qualifying examination, must demonstrate reading proficiency in a foreign language, and must submit an acceptable master's thesis (for doctoral students the Specialist Essay, described below, may substitute for the thesis component in the awarding of an M.A.).

### Doctor of Philosophy

#### Program of Study

Flexibility of curriculum enables the student to organize a program of study around his or her particular anthropological interests. At the same time, the doctoral program is structured so that a broad familiarity with other aspects of the discipline is achieved.

At the outset an adviser is assigned each matriculant, but by the end of the second semester of study a student is expected to recruit two members of the faculty for a permanent advisory committee. In soliciting potential committee members, the student should be guided by interest and specialization. Once established, the committee is responsible, through regular meetings and informal consultation, for 1) guiding the student in the selection of suitable courses, 2) providing advice in the formulation of a dissertation research project, and 3) supervising the student's progress through the program.

With respect to formal course requirements, all students not exempted by virtue of previous graduate training must complete the four core courses in social organization and anthropological theory, a special one-semester seminar in archaeology, another in physical anthropology, and a two-semester course sequence in anthropological linguistics. Students concentrating in archaeology may substitute the one-semester course for the linguistics (Linguistics 102) requirement. Through course work and outside reading it is expected that students will attain a high degree of scholarly competence in at least one culture area and one topical field study.

The department may, at its discretion, grant a student transfer credit for graduate courses completed with a b grade or better at another accredited institution. Requests for transfer credit will not be considered, however, until at least one semester of study has been completed at Brandeis. Prior approval is not needed for courses taken at Boston College, Boston University and Tufts University, for

which formal cross-registration arrangements are in effect. In any case, a maximum of one year of residence credit is allowed by the Graduate School for work completed elsewhere.

#### Qualifying Examination

#### Language Requirement

#### Summer Training Program

#### Admission to Candidacy

#### Dissertation Research

#### Dissertation and Defense

At the end of sixteen half-courses students take a General Examination which tests for overall mastery of the subject matter. Upon passing the General Examination, work begins on a Specialist Essay, normally focused on theoretical and/or topical issues of relevance to the forthcoming dissertation. The purpose of the Specialist Essay is to demonstrate a capacity for independent research of high quality. By the end of the third year of study, the essay should be complete, language requirements satisfied, and a proposal for dissertation research drawn up.

A reading knowledge of at least one foreign language must be demonstrated by examination and by writing a research paper or dissertation in which sources in the chosen language contribute to the research. The examination part of this requirement must be passed before the student may be admitted to candidacy for the Ph.D.

Contingent upon the availability of funding, a program of fieldwork under faculty supervision is carried out during the summer following a student's first year of residence.

A student is admitted to candidacy for the Ph.D. upon satisfactory completion of 1) sixteen half-courses, including all the required courses, 2) a General Examination in anthropology, 3) the reading examination in a foreign language, and 4) the Specialist Essay.

As soon as possible after admission to candidacy, the student should begin at least a full year of research consisting of fieldwork and/or laboratory analysis. In exceptional cases, library research may be substituted. This research forms the basis for a doctoral dissertation.

The department will recommend to the Dean of the Graduate School that a Ph.D. be awarded the candidate upon formal acceptance of a dissertation and after its successful defense in a Final Oral Examination. Details of the regulations for certifying approval of the dissertation and for the Final Oral Examination are found in earlier pages of this catalog.

## Courses of Instruction

<b>Anthropology 101b. Medical Anthropology</b>	<p>The purpose of this course is to study the relationship between stress and mental health and physical well-being. It will look at the connection between stressful experiences and the "natural" support systems for those undergoing transitions such as becoming a parent, losing a job, getting divorced, entering college, and bereavement. The conditions which influence the availability and use of support will be considered. Important aspects of this course will be to discuss the concepts of stress and support and to review research concerning relationships between crises, support and coping behavior.</p>	<p>Mr. Jacobson</p>	<b>Anthropology 105aR. Symbol, Myth and Ritual</b>	<p>Though the mythology of Ancient Greece is perhaps the best known, in fact every culture has its myths. Beginning with the study of mythologies in small-scale and classless societies, where they are the only social expression of reality, the course reveals the characteristics and the mechanisms of mythical thought and introduces a way of understanding myths. This method is then used to examine the mythological system of other and more complex societies. Special emphasis is given to the elucidation of mythical symbolism and on the necessity of relating myths to rituals. The course ends with the comparison of the religion of several social systems.</p>
<b>Anthropology 102a. An Anthropological Introduction to Language</b>	<p>A general introduction to anthropological perspectives on language. Topics will include: the organization of language as a communicative system; language in human evolution; linguistic approaches to cultural meaning and world-view; historical perspectives on language (language change, history and pre-history).</p>	<p>Ms. Irvine</p>	<b>Anthropology 107a. Human Disease Ecology</b>	<p><input type="checkbox"/> Not offered 1985-1986</p>
<b>Anthropology 102b. Social and Cultural Aspects of Linguistic Analysis</b>	<p>Advanced topics in anthropological linguistics. The course will focus on three areas: 1) linguistics fieldwork and the analysis of unfamiliar language; 2) linguistic variation and social structure; 3) current issues in semantics and pragmatics (the relation between meaning and use in cross-cultural perspective).</p>	<p>Ms. Irvine</p>	<b>Anthropology 108b. Greek Mythology</b>	<p><input type="checkbox"/> Not offered 1985-1986</p>
<b>Anthropology 103b. Language, Society and Culture</b>	<p>A comparative study of social and cultural aspects of language. Topics to be explored include: what kinds of social groups contrast in their use of language? How does a person's speech contribute to the impression he/she makes on other people? How is conversation organized, and to what purpose? Students conduct a fieldwork project on speech in their own social milieu.</p>	<p>Ms. Irvine</p>	<b>Anthropology 110a. Introduction to Human Evolution</b>	<p><input type="checkbox"/> Not offered 1985-1986</p>
		<p>Ms. Irvine</p>	<b>Anthropology 110b. Introduction to Human Evolution</b>	<p><input type="checkbox"/> Not offered 1985-1986</p>
		<p>Ms. Irvine</p>	<b>Anthropology 111a. Introduction to Primate Studies</b>	<p>An introduction to the study of non-human primates paying special attention to studies of primates in their natural habitat. Topics focus primarily on the relationships of elements of an animal's feeding, social/maintenance and locomotor behavior to selected aspects of its environment.</p>
		<p>Ms. Irvine</p>	<p>Mr. Gomberg</p>	<p><input type="checkbox"/> Not offered 1985-1986</p>
		<p>Ms. Irvine</p>	<b>Anthropology 112b. Evolution and Natural Selection</b>	<p><input type="checkbox"/> Not offered 1985-1986</p>

<b>Anthropology 113a. Human Variation</b>	An introduction to human biological variation. Differences between individuals and populations within human species in biological characteristics (body build, blood groups, skin color) will be analyzed using an adaptive approach. The utility of the racial model to understanding human variation will be evaluated and compared to that of other approaches. Several politically and socially controversial topics relating to human variation (race and IQ, sociobiology) will be discussed in the semester.	<b>Anthropology 128b. The Provisioning of Cities</b>	That cities must be provisioned with food, water and fuel is self-evident; how they do it is not. Successful and sustained provisioning is a complex system of ecological, political, economic social and cultural constraints and implications. In this course specific attention is paid to agricultural productivity, the technology of storage and transport, urban-rural terms of trade, and the very complex mixtures of distribution systems in cities. The mutual relevance of the various problems and their solutions is stressed. We will use concepts from several disciplines, and data from many times and places, including classical Rome, West Africa, colonial Mexico and modern times.
Mr. Gomberg			
<b>Anthropology 115aR. Biocultural Adaptation</b>	An advanced course dealing with human adaptation with particular emphasis on the interaction of elements of the biological and cultural adaptive system in human societies.	<b>Anthropology 129b. The Evolution of Culture and Society</b>	Past and present ideas about evolution are examined and their utility for explaining social and cultural changes are evaluated. Examples illustrating the use of evolutionary models will be drawn from anthropological studies in both recent and ancient times.
Mr. Gomberg			Mr. Hunt
<b>Anthropology 116a. Human Osteology</b>	<input type="checkbox"/> Not offered 1985-1986		
Mr. Gomberg			Mr. Zeitlin
<b>Anthropology 117a. The Archaeology of Cyprus I</b>	See CLORS 116a.	<b>Anthropology 131. The Archaeology of Anatolia</b>	See CLORS 122.
Mr. Todd		Mr. Todd	
<b>Anthropology 117b. The Archaeology of Cyprus II</b>	See CLORS 116b.	<b>Anthropology 133a. Tradition and the Contemporary Experience in Black Africa</b>	This course explores the variety and richness of indigenous African social and cultural forms, such as the organization of the family; indigenous political systems; rank and slavery; traditional economies; ideas about magic, witchcraft, and religion; and the arts. Precolonial ways of life are compared with the transformations in the colonial and post-colonial periods. A major goal will be to assess the impact of the colonial encounter on the daily-life experience of Africans today.
Mr. Todd		Ms. Irvine	
<b>Anthropology 118b. History of Anthro- pological Theory</b>	<input type="checkbox"/> Not offered 1985-1986	<b>Anthropology 133b. Anthropological Fieldwork</b>	<input type="checkbox"/> Not offered 1985-1986
Mr. Todd		Ms. Irvine	
<b>Anthropology 119a. Conquest and Colonialism in Native Latin America</b>	<input type="checkbox"/> Not offered 1985-1986	<b>Anthropology 135bR. Peoples and Cultures of India</b>	An introduction to patterns of thought and action in rural India, with special emphasis on Hindu communities.
Mr. Todd		Ms. Robinson	
<b>Anthropology 120b. The Anthropology of Law</b>	See LEGAL STUDIES 102b.	<b>Anthropology 140a. North American Indians Before the Europeans</b>	<input type="checkbox"/> Not offered 1985-1986.
Mr. Todd		Ms. Robinson	
<b>Anthropology 123a. Directions and Issues in Archaeology</b>	<input type="checkbox"/> Not offered 1985-1986	<b>Anthropology 141b. The American Indian</b>	<input type="checkbox"/> Not offered 1985-1986.
Mr. Todd		Ms. Robinson	
<b>Anthropology 124a. Archaeology of the Aegean and Near East I</b>	See CLORS 100a.	<b>Anthropology 145a. Seminar in Mesoamerican Archaeology and Ethnohistory</b>	<input type="checkbox"/> Not offered 1985-1986
Mr. Todd		Ms. Robinson	
<b>Anthropology 124b. Archaeology of the Aegean and Near East II</b>	See CLORS 100b.		
Mr. Todd			
<b>Anthropology 125b. Investigations in an Unfamiliar Language</b>	<input type="checkbox"/> Not offered 1985-1986		
Mr. Todd			
<b>Anthropology 126a. Kinship</b>	<input type="checkbox"/> Not offered 1985-1986		
Mr. Todd			

Anthropology 146a. <b>Environment and Archaeology</b>	<input type="checkbox"/> Not offered 1985-1986	Anthropology 161bR. <b>Culture and Cognition</b>	What relationship is there between cognitive processes and cultural systems? Do cultural differences involve or affect people's perception, classification process, memory or modes of problem-solving? Do they affect the course of cognitive development? This course will examine cross-cultural research in psychology and anthropology that attempts to answer these questions. Special attention will be given to the role of language, to the relation between magic and science, and the cognitive effects of literacy.
Anthropology 147b. <b>The Rise of Mesoamerican Civilization</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Murray
Anthropology 148a. <b>Rise, Function and Fall of Early Civilizations: Concepts and Explanations</b>	<input type="checkbox"/> Not offered 1985-1986	Anthropology 162a. <b>Anthropology and Psychoanalysis</b>	Survey of psychoanalytic theories advanced by Freud, Bettelheim, Roheim, Devereaux and others regarding the idea of the unconscious. Using the experience of psychoanalytic therapy as our frame of reference, we will deal cross-culturally with infancy, initiation rites, funerals and myths. What is the contribution of psychoanalysis to an understanding of the relationship between the individual and society?
Anthropology 149. <b>The Archaeology of the Aegean</b>	See CLORS 119. Mr. Todd		Mr. Jacopin
Anthropology 150a. <b>Spatial Analysis in Archaeology</b>	Techniques for identification of within--and between-site spatial patterns in archaeological materials, and approaches to their sociocultural interpretation. Substantial archaeology background is expected of students.	Anthropology 164b. <b>Corporate Cultures</b>	The course examines the structure and internal dynamics of the modern corporation with special emphasis on corporate culture, i.e., the system of company-specific beliefs, values, norms, that underlies work-related behavior of members. Formal and informal aspects of corporate organization will be described and the developmental trajectory of the firm from start-up to maturity will be correlated with changes in corporate culture.
Anthropology 151a. <b>Social Organization I</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Ziegler
Anthropology 151b. <b>Social Organization II</b>	A continuation of 151a. This course will emphasize structural analysis. Designed primarily for advanced undergraduate and graduate students.	Anthropology 165aR. <b>Modernization and Social Change</b>	Exploration of selected problems and processes of modernization with reference to both the "developed" and the "underdeveloped" states and the relationships between them.
Anthropology 152b. <b>Comparative Political Economy</b>	<input type="checkbox"/> Not offered 1985-1986		Ms. Robinson
Anthropology 153a. <b>Primitive Art</b>	<input type="checkbox"/> Not offered 1985-1986	Anthropology 166a. <b>The Nature of Human Nature</b>	This course will deal with various theories of human nature and the evidence for such theories. It will explore the way in which theories of the nature of man have figured in interpretations of culture. The course addresses the question: to what extent is culture the expression of nature and to what extent does it depart from nature?
Anthropology 154b. <b>Selected Topics in Comparative Religion</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Saler
Anthropology 155b. <b>Psychological Anthropology</b>	<input type="checkbox"/> Not offered 1985-1986	Anthropology 170a. <b>Peasant Cultures: Past and Present</b>	<input type="checkbox"/> Not offered 1985-1986
Anthropology 156aR. <b>Political Anthropology</b>	A survey of major anthropological approaches to the study of politics.	Anthropology 171a. <b>The Comparative Method</b>	<input type="checkbox"/> Not offered 1985-1986
Anthropology 158a. <b>Urban Anthropology</b>	<input type="checkbox"/> Not offered 1985-1986	Anthropology 175a. <b>Pro-Seminar in Anthropological Theory</b>	Analysis of representative classics in anthropology.
			Mr. Jacobson

Anthropology 175b. <b>Pro-Seminar in Method in Cultural Anthropology</b>	The development of anthropological theory, major present-day trends and their relation to problems of research. Mr. Kaplan	228a and b. <b>Advanced Readings in Method and Theory</b> Mr. Kaplan
Anthropology 186. <b>Mathematics and Computers in Archaeological Data Analysis</b>	<input type="checkbox"/> Not offered 1985-1986	229a and b. <b>Guided Comparative and Historical Research</b> Mr. Hunt
Anthropology 188. <b>Materials in Ancient Societies: Lithics</b>	A seminar and laboratory course meeting at MIT. In 1985-86 the course focuses on the scientific analysis of stone materials used for tools, luxury goods and construction. Students will learn techniques for identifying rock types and for determining rock properties, tool manufacturing sequences, and the alterations that result from use and weathering. The course will emphasize ways in which analytical techniques can increase our understanding of prehistoric technologies and economics. Ms. Luedtke and Mr. Isaac Mr. Zeidin, Brandeis Co-ordinator	230a and b. <b>Readings and Research on Culture of Hunters and Gatherers</b> Mr. Jacopin
Anthropology 198a. <b>Waltham Community Studies Seminar</b>	Mr. Folsom	231a and b. <b>Readings in Cognitive Culture</b> Mr. Saler
Anthropology 198b. <b>Waltham Community Studies Seminar</b>	Mr. Folsom	232a and b. <b>Readings in Law</b> Staff
<b>Primarily for Graduate Students</b>		235a and b. <b>Readings and Research in Latin American Cultures</b> Mr. Hunt
Anthropology 222-256. <b>Readings and Research Courses</b>		236a and b. <b>Readings and Research on East and South Asia</b> Ms. Robinson
222a and b. <b>Readings and Research on the World Before Civilization</b>	Mr. R. Zeitlin	237a and b. <b>Readings and Research in African Cultures</b> Ms. Irvine
226a and b. <b>Readings and Research in Archaeology</b>	Staff	238a and b. <b>Readings and Research in Urban Anthropology</b> Mr. Jacobson
227a and b. <b>Readings and Research in Linguistic Anthropology</b>	Ms. Irvine	239a and b. <b>Readings and Research in North American Indians</b> Staff
		240a and b. <b>Readings and Research in Medical Anthropology</b> Mr. Jacobson
		241a and b. <b>Readings and Research in New World Ethnohistory</b> Ms. J. Zeitlin
		242a and b. <b>Readings in the Anthropology of Art</b> Mr. Jacopin

245a and b. <b>Readings and Research in Physical Anthropology</b>	Mr. Gomberg	Anthropology 302. <b>Summer Research Training</b>	Field work for three months during the summer under the supervision of a member of the staff.
253a and b. <b>Readings and Research in Economic Anthropology</b>	Mr. Kaplan	Anthropology 304a and b. <b>Readings and Research in Anthropological Field Methods</b>	Staff
254a and b. <b>Readings and Research in Southeast Asian Ethnography</b>	Mr. Appell	Anthropology 305a and b. <b>Anthropology Colloquium</b>	Staff
256a and b. <b>Readings and Research in Religion</b>	Mr. Saler	Anthropology 400-414. <b>Dissertation Research</b>	Independent research for the Ph.D. degree 401. Mr. Cowgill 408. Ms. Robinson 402. Mr. Jacobson 409. Mr. Saler 403. Mr. Hunt 411. Ms. J. Zeitlin 404. Mr. Comberg 412. Mr. R. Zeitlin 405. Ms. Irvine 413. Mr. Gomberg 407. Mr. Kaplan 414. Mr. Jacopin
<b>Anthropology 300a and b. Seminar in Anthropological Field Work</b>	Staff		

# Biochemistry

## Objectives

The graduate program in biochemistry leading to the degree of Doctor of Philosophy is designed to equip students with a broad understanding of the chemistry involved in biological processes and to train them to carry out independent original research. Although students will be primarily responsible for a comprehensive understanding of biochemical phenomena, they will be encouraged to acquaint themselves with the disciplines of biology and chemistry. Research and experimental projects rather than formal course training will be emphasized. The student will, however, be required to take courses in advanced biochemistry, physical biochemistry, biochemical techniques, molecular biology and biochemistry seminars, as well as one advanced course in chemistry or biology. The choice of advanced biochemistry courses and those of other scientific disciplines (i.e., organic chemistry, genetics, embryology, etc.) are subject to the student's particular interests. The choice of research programs should be in areas under investigation by the faculty; some of these fields include metabolic regulation in normal and also tumor tissues, enzymology, immunochemistry, molecular biology, molecular pharmacology, biochemical genetics, bacterial and phage genetics, physical chemistry of macromolecules, protein chemistry, plant and virus metabolism, problems in growth and differentiation, microbial metabolism, organic biochemistry, membrane transport and energy coupling mechanisms, application of NMR to biochemical problems, biochemistry of muscle, and chromosome structure.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply here. Applicants for admission to the Biochemistry Department are also required to take the Graduate Record Examination. It is strongly suggested that the applicant take one of the advanced sections (preferably chemistry or biology) of this examination. The student's undergraduate curriculum should include some fundamental courses in biology and chemistry.

## Faculty

### Professor

**Robert H. Abeles**, Chair: Mechanism of enzyme action. Design of highly specific enzyme inactivators. Design of inhibitors with potential pharmacological significance. Mechanism of drug action.

### Professor

**Gerald D. Fasman**: Conformation of biological macromolecules. Chromatin structure, protein-DNA interactions. Protein models; synthesis and conformational studies of polyamino acids.

### Professor

**Thomas C. Hollocher, Jr.**: Role and mechanism of action of oxidation-reduction enzymes. Mechanism, enzymology and pathway of nitrogen in denitrification and nitrification.

**Professor William P. Jencks**: Mechanisms of reactions catalyzed by enzymes, coenzymes, and by chemical catalysts. Mechanisms, catalysis and equilibria of reactions of "energy-rich" compounds of importance in biochemistry and chemistry. Mechanisms of conversion of chemical energy into osmotic and mechanical work.

**Professor Lawrence Levine**: Immunochemistry. Antibodies as analytical reagents for measuring pharmacologically important molecules. Mechanisms of arachidonic acid metabolism by cells in culture.

**Professor Irwin B. Levitan**: Neurobiology. Neurobiochemistry. Regulation of neuronal membrane properties.

**John M. Lowenstein**: Role of phospholipids in hormone action. Regulation of metabolic pathways. Regulation and function of the purine nucleotide cycle; regulation of adenosine production in heart.

**Professor Susan Lowey**: Structure and function of myofibrillar proteins and their relation to the muscle cell. Techniques will include physical chemistry, protein chemistry, fluorescence and electron microscopy.

**Professor Christopher Miller**: Cellular physiology and biophysics. Membrane transport and mechanisms of electrical excitation.

**Professor Alfred G. Redfield**: Magnetic resonance in biopolymers. Physical biochemistry.

**Professor Robert F. Schleif**: Molecular genetics. Mechanism of gene regulation as studied by genetic, physiological and physical chemical means.

**Professor Serge N. Timasheff**: Physical chemistry of proteins, in particular, structure in solution and self-associations; self-assembling systems; ligand-mediated interactions; macromolecular properties of biological polymers.

**Professor Helen Van Vunakis**: Interaction of hallucinogenic, narcotic and carcinogenic compounds with specific antibodies and natural receptors. Nicotine metabolism and physiological effects.

**Associate Professor William T. Murakami**:

Biochemistry of virus infection. Metabolism of virus-infected cells. Purification and characterization of polyoma viruses.

**Associate Professor Pieter Wensink**:

Molecular biology. Gene expression during development of higher organisms. The physical arrangement of genes within the DNA and the chromosomes of higher organisms.

**Assistant Professor Michael J. Newman**: Regulation of growth and transformation of mammalian cells. Mechanisms of action of normal and transforming growth factors. Mechanism and regulation of solute transport to bacterial and mammalian cells.

**Assistant Professor Michael Wormington**: Molecular biology. Developmental regulation of eukaryotic gene expression. Control of mitochondrial transcription.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Each doctoral candidate must satisfactorily complete the following fundamental courses: advanced biochemistry, biochemical techniques, physical biochemistry and biochemical research problems, and four of the biochemistry seminars.

#### Financial Support.

Graduate students currently receive financial support for a period of four years. Support for the fifth year or beyond is arranged with the research supervisor. The initial four-year support is contingent upon teaching for a maximum of two semesters. Teaching does not require laboratory supervision.

#### Language Requirements.

There is no foreign language requirement for the Ph.D. degree.

#### Qualifying Examinations.

An oral qualifying examination must be taken generally at the beginning of the second year. In this examination, the student will be asked to defend or refute two propositions. One proposition will be assigned in an area of research outside the student's immediate area of specialization, and one will be an original proposition put forth by the student for a research problem in his or her area of interest (this is not necessarily a problem upon which he or she will carry out research).

#### Admission to Candidacy.

#### Dissertation and Defense.

In addition, the student will have an opportunity to demonstrate general knowledge of biochemistry in a series of three area examinations: physical biochemistry and macromolecules, metabolism and enzymology, and molecular biology. Students are expected to have taken three examinations by the end of the third year; two of these must be taken by the end of the second year. This general knowledge outside the student's own field of specialization must be demonstrated to the satisfaction of an advisory committee of four Department faculty members.

At this time it will be decided whether a student will continue working towards the Ph.D. degree or a Master of Arts degree.

At some time before the second semester of their third year, students will present to a committee of four members of the Department a summary of their research accomplished to date, including the most significant experimental data and detailed plans for the completion of a research project. The committee will recommend whether the research project should be continued as a partial fulfillment of the requirements for the Doctor of Philosophy degree. After completion of the research report and the three area examinations at a level satisfactory for the Ph.D. degree, the student will be admitted to candidacy.

A dissertation will be required which summarizes the results of an original investigation of an approved subject and which demonstrates the competence of the candidate in independent research. This dissertation will be defended in a Final Oral Examination.

## Courses of Instruction

Biochemistry 100a. <b>Introduction to Biochemistry</b>	Chemistry, reaction and metabolism of biologically important compounds. Formation and utilization of "energy-rich" compounds. Introduction to enzyme mechanisms. An attempt will be made to interrelate and compare basic biochemical and chemical processes. Metabolic regulation. Prerequisite: Chemistry 25a and b.	Biochemistry 202b. <b>Chemistry of Enzyme-Catalyzed Reactions</b>	This course will deal with reaction mechanisms of catalysis in aqueous solution, some of which are relevant to enzymic catalysis.
	Section 1: Mr. Murakami and Ms. Lowey Section 2: Messrs. Abeles and Jencks		
Biochemistry 100aR. <b>Introductory Biochemistry</b>	See Biochemistry 100a. Messes. Fasman and Newman	Biochemistry 214a. <b>Molecular Basis for Contractility in Muscle and Non-Muscle Cells</b>	Ms. Lowey
Biochemistry 101a. <b>Advanced Biochemistry I</b>	A discussion of enzyme reactions including energetics, kinetics, and reaction mechanism. Metabolism of carbohydrates, lipids, amino acids, nucleic acids, vitamins and coenzymes, hormones, and inorganic substances. Coupled enzyme reactions, such as oxidative phosphorylation, and the synthesis of macromolecules such as glycogen, protein and the nucleic acids. Regulated enzymes and regulation of metabolism. Prerequisite: Chemistry 25a and b, Biochemistry 100a or their equivalent.	Biochemistry 221b. <b>Metabolic Regulation with Special Reference to Hormonal Regulation</b>	Mr. Lowenstein
	Messrs. Abeles, Jencks, Hollocher	Biochemistry 228b. <b>Thermodynamic Linkages in Protein Interactions</b>	Mr. Timasheff
Biochemistry 101b. <b>Advanced Biochemistry I</b>	A continuation of Biochemistry 101a. Messrs. Abeles, Jencks, Miller and Lowenstein	Biochemistry 231a. <b>Ion Channel Proteins</b>	Mr. Miller
Biochemistry 103a. <b>Advanced Molecular Biology</b>	The fundamental principles of molecular biology will be stressed with respect to nucleic acid biosynthesis, structure, and physiological involvement. In addition, a description of events dealing with control of genetic information will be outlined.	Biochemistry 401-420. <b>Biochemical Research Problems</b>	Independent research for the Ph.D. degree. 401. Mr. Jencks 411. Ms. Van Vunakis 402. Mr. Levine 413. Mr. Hollocher 404. Mr. Timasheff 414. Mr. Murakami 405. Mr. Abeles 415. Mr. Schleif 406. Mr. Fasman 416. Mr. Redfield 407. Mr. Lowenstein 417. Mr. Wormington 408. Mr. Wensink 418. Mr. Miller 409. Ms. Lowey 419. Mr. Levitan 420. Mr. Newman
Biochemistry 104b. <b>Introduction to Physical Biochemistry</b>	Discussion of physical methods; molecular interactions; solvent effects; principles of folding; structural and conformation analyses by various spectroscopic and x-ray techniques.	Journal Club, Colloquia, and Research Clubs	In addition to the formal courses announced above, all graduate students are encouraged to participate in the Department's Journal Club and colloquia. The Journal Club is an informal meeting of the students, staff and post-doctoral fellows, at which recent publications are discussed. Colloquia are general meetings of the Department in which both speakers from the Department and guest speakers will present their current investigations. Research clubs are organized by various research groups of the Department.
Biochemistry 200. <b>Biochemistry Techniques</b>	Prerequisite: Biochemistry 101. May be taken concurrently.		
	Mr. Jencks and Staff		

# Biology

## Objectives

The graduate program in biology is designed to encourage and train students to develop their abilities to carry out independent and original research. Each student is expected to become familiar with the major areas of research currently being conducted within the department: molecular genetics and development, neurobiology, immunology, and cell and structural biology. In addition to a flexible curriculum of courses, designed for each student's specific program, entering students begin a series of laboratory rotations to acquaint themselves with current research techniques and to explore possible areas of thesis research. Students also are given opportunities to develop their confidence and ability to make oral presentations, beginning in the first year with a proseminal designed to discuss research methodology and continuing through a series of journal clubs. Each advanced student also presents an annual summary of his or her own research to the department. Research leading to a Ph.D. degree is carried out under the direction of one of the 21 members of the biology faculty. Areas of research include: molecular biology of the regulation of gene expression, especially during development; chromosome structure and chromosomal rearrangements; developmental genetics; behavior genetics and neural development; biophysics of single nerve cells; integration of neural function; immunogenetics; immune cell differentiation and development; molecular biology of the immune system; regulation of muscle contraction; molecular and cell architecture; organization of subcellular structures. A complete list of faculty research interests is available from the Department of Biology.

## Faculty

**Professor David J. DeRosier** (Rosenstiel Center), Chair: Structural studies of macromolecular complexes. Electron microscopy and image analysis applied to actin and actin-containing assemblies, bacterial flagella, and mulienzyme complexes.

**Professor Carolyn Cohen** (Rosenstiel Center): Structural molecular biology.

**Professor Herman T. Epstein:** Developmental changes in the brain in relation to learning in man and mouse.

**Professor Chandler M. Fulton:** Cell differentiation and selective gene expression in eucaryotic cells. Morphogenesis of cell shape and of cell organelles, especially flagella.

**Professor Martin Gibbs** (Photobiology Institute): Photosynthesis and plant physiology.

**Professor James E. Haber** (Rosenstiel Center): Genetic and molecular biology of yeast *Saccharomyces cerevisiae*. Mechanism of recombination; chromosomal rearrangements; control of meiosis and cell type.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology at this institution. These are: general biology, genetics, cell physiology, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects, but whose records are otherwise superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the Biology Department, graduate students will report to the temporary graduate student advisor who will assist the student with formal entry into the department and later with their programs.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research. In recognition of this, the Biology Department provides summer stipends for its full-time graduate students.

**Professor Marlyn O. Halvorson** (Director, Rosenstiel Center): Developmental changes in micro-organisms. Control of macromolecular synthesis during the cell cycle and during sporulation in bacillus.

**Professor Kenneth C. Hayes** (Director, Foster Biomedical Research Laboratory): Comparative nutritional pathophysiology in man and animals. Lipoprotein metabolism and atherosclerosis, cholelithiasis.

**Professor Attila O. Klein**: Regulation of development in higher plants by light. Control of growth, organelle development and macromolecular synthesis in the leaf.

**Professor Alfred Nisonoff** (Rosenstiel Center): Immunochemistry. Genetic control of the immune response.

**Professor Jerome A. Schiff** (Director, Photobiology Institute): Plant biochemistry and physiology. Photocontrol of intracellular development. Sulfur metabolism.

**Professor Andrew G. Szent-Gyorgyi:** Mechanism of muscle contraction. Regulation of contractile proteins in both primitive and more advanced animals.

Associate Professor <b>Jeffrey C. Hall:</b> Genetic and histochemical mosaic analysis of behavior mutants of <i>Drosophila</i> <i>melanogaster</i> .	Associate Professor <b>Eve E. Marder:</b> Neurotransmitter modulation of neural circuits.	Associate Professor <b>Michael Rosbash:</b> Gene organization in eucaryotes. Macromolecular synthesis during oogenesis.	Associate Professor <b>Kalpana P. White:</b> Developmental neurogenetics.	Adjunct Assistant Professor <b>Judith E. Tsipis:</b> Virology.
Associate Professor <b>John E. Lisicki:</b> Mechanisms of excitation and adaptation in photoreceptors.	Associate Professor <b>Joan L. Press</b> (Rosenstiel Center): Developmental immunology and immunogenetics.	Associate Professor <b>Lawrence J. Wangh:</b> Steroid hormone regulated biosynthetic responses of <i>Xenopus</i> liver cells.	Assistant Professor <b>Kathleen M. Karrer:</b> Molecular analysis of germ line development, genome rearrangements in protozoa.	Assistant Professor <b>Erik Selsing:</b> Immunology.

## Degree Requirements

At least one year of teaching experience (or equivalent) is required of all degree candidates.

### Master of Arts

The goal of the Biology Department is to train students in original research on the level of the Ph.D. Only rarely do we accept candidates for a master's degree.

### Program of Study.

The program leading to the M.A. degree in Biology requires course work and a research thesis. The student's program will be set up by the Graduate Committee of the department. The candidate must complete the equivalent of one full year of graduate study at Brandeis University, normally computed at a minimum of eight half-courses of approved study which include research courses. The candidate must pass the prescribed courses and submit an acceptable thesis.

### Language requirements.

There is no foreign language requirement for the master's degree.

### Doctor of Philosophy

#### Program of Study.

All students will be expected to obtain a knowledge of the principles and techniques of the five areas represented in the department, i.e., genetics, developmental biology, neurobiology, immunology and cell biology, before taking the qualifying examination. The background a student is expected to have in these areas will be covered in courses given by the department. Entering students will be encouraged to do research rotations in at least two different laboratories. The student will be expected also to have additional background in his or her area of specialization as well as experience in seminar and research courses to be designated.

Each student will choose his or her specific field of interest and will apply for a permanent adviser to be agreed upon by the department before the end of the second year. The adviser will assist the student in planning a well-balanced program in his or her specific field of interest. In addition, the adviser will ordinarily serve as the chairman of the student's dissertation examining committee.

#### Language Requirement.

There is no foreign language requirement for the Ph.D. degree.

#### Qualifying Examination.

Ordinarily this examination is taken in the middle of the second year of study. Subsequent to the written portion of the examination, a proposition committee is formed and the student must submit and defend two propositions from two areas. The student will be examined orally on the two propositions by the three members of the proposition committee.

#### Admission to Candidacy.

To be admitted to candidacy, the student must have (a) passed the qualifying examination, (b) been accepted by a graduate adviser.

#### Dissertation and Defense.

Each student will conduct an original investigation. With the approval of the student's adviser, however, research courses may be elected at any time. After submission of the dissertation, the candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation.

## Courses of Instruction

**Biology 100a.  
Photobiology of  
Cells and Organelles** See Photobiology 100a.  
Messrs. Gibbs, Schiff and Staff

**Biology 101a.  
The Electron  
Microscope**  Not offered 1985-1986

**Biology 102b.  
Structural  
Biochemistry** This course will explore how complex biological molecules work in terms of their detailed atomic structure. We will analyze the special designs and motions of proteins, nucleic acids and lipid molecules and discuss how they are organized in higher level cellular structures such as virus particles, chromosomes, muscle filaments and membranes. Important approaches to this material will include both experimental methods (such as X-ray crystallography and electron microscopy) and conceptual tools for solving structural problems. An intermediate course suitable for first-year graduate students and qualified undergraduates.

Ms. Cohen

**Biology 105bR.  
Eukaryotic  
Molecular Biology** The structure and control of eukaryotic genes and their products. Experimental support for current views of control will be emphasized. Research papers will be discussed.

Mr. Rosbash

**Biology 107a.  
Behavioral Genetics**  Not offered 1985-1986

**Biology 122a.  
Advanced Genetics**  Not offered 1985-1986

**Biology 124bR.  
Animal Virology**  Not offered 1985-1986

**Biology 125a.  
Immunology** A discussion of the biological aspects of the immune response. Topics to be covered include antibody structure and function; properties and characteristics of the cells involved in cell-mediated immunity, transplantation immunity, allergy, and humoral immunity; tolerance of the cellular perception of self and non-self; generation of antibody diversity; regulatory mechanisms involved in cell interaction, including suppression and genetic control; and aspects of tumor immunity.

Mr. Selsing

Biology 142a.  
Neurobiology

This course is designed as an introduction to the field of neurobiology. Original papers and a textbook will provide readings. topics: membrane electrophysiology, synaptic transmission, sensory processing, generation of motor patterns, and neuronal plasticity. For graduate students with little or no previous course work and undergraduates who have previously taken Biology 41.

Mr. Lisman

Biology 161b.  
Developmental  
Genetics

The course will consider the use of classical genetics, cytogenetics and molecular genetics in the analysis of developmental problems. Developmental processes such as oogenesis, embryogenesis and gene amplification will be used as framework for discussion of such genetic techniques as gyandromorph mapping, somatic recombination, cytoplasmic and cellular transplantation, *in situ* hybridization, somatic cell recombination, etc. Readings will be assigned from the literature. Course requirements: one paper, one class presentation and a final examination.

Mr. Hall

Biology 175b.  
Advanced  
Immunology

*Permission of instructor required.*

Recent advances in immunobiology. The format will include lectures to introduce the subject material and a detailed analysis with student participation of papers in the current literature. Topics which will be considered include: lymphocyte subsets-differentiation, heterogeneity, function, phenotypes, and antigen receptors; requirements for and mechanisms of lymphocyte activation by antigen; the regulatory mechanisms permitting/preventing immune responsiveness; genetic restrictions in lymphocyte interactions, with emphasis on the role of genes in the transplantation and tumor immunity.

Mr. Nisonoff

Biology 177b.  
Molecular  
Immunology

Not offered 1985-1986

Biology 200a.  
Proseminar.

Mr. DeRosier

Biology 245a.  
Selected Topics in  
Plant Metabolism

See Photobiology 245a.

Mr. Gibbs

Biology 245b.  
Comparative  
Physiology and  
Biochemistry of  
Plants

See Photobiology 245b.

Mr. Schiff

**Courses in Research**

<b>Biology 300a and b. Biological Research</b>	Primarily for the first year student with the purpose of introducing him or her to biological research and to the work in progress in the laboratories of a number of faculty members. In consultation with the graduate adviser, the student of such tenures, each comprising six weeks or more, and then carries out experimental investigations under the guidance of the faculty members involved.
Staff	
<b>Biology 400. Biophysics of Microorganisms</b>	Mr. Epstein
<b>Biology 402. Molecular Biology of Microorganisms</b>	Mr. Halvorson
<b>Biology 403. Immunoochemistry: Genetic Control of the Immune Response</b>	Mr. Nisonoff
<b>Biology 404. Developmental Neurobiology</b>	Ms. White
<b>Biology 405. Cell Differentiation and Morphogenesis</b>	Mr. Fulton
<b>Biology 406. Neurophysiology</b>	Ms. Marder
<b>Biology 407. Structural Biochemistry</b>	Ms. Cohen
<b>Biology 408. Behavioral Genetics</b>	Mr. Hall
<b>Biology 409. Biophysics of Visual Transduction</b>	Mr. Lisman

**Biology 410.  
Plant Development** Mr. Klein

**Biology 411.  
Gene Control in  
Vitellogenin** Mr. Wangh

**Biology 412.  
Structural Molecular  
Biology** Mr. DeRosier

**Biology 413.  
General Physiology** Mr. Szent-Gyorgyi

**Biology 414.  
Gene Organization  
Eukaryotes.  
Macromolecular  
Synthesis During  
Oogenesis** Mr. Rosbash

**Biology 415.  
Biochemistry and  
Genetics of  
Differentiation** Mr. Haber

**Biology 416.  
Molecular Analysis  
of Germ Line  
Development** Ms. Karrer

**Biology 418.  
Developmental  
Immunology** Ms. Press

**Biology 419.  
Immunology** Mr. Selsing

**Biology 420.  
Nutritional  
Patho-physiology** Mr. Hayes

**Biology Journal  
Clubs** There will be a number of informal Journal Clubs which deal with various topics of concern to the various specialties. These will meet regularly under the auspices of the staff. Students, depending upon their individual needs, may be required to attend.

# Biophysics

## Objectives

The interdepartmental graduate program in biophysics, leading to the degree of Doctor of Philosophy, is designed to provide a broad background in the physics and chemistry of living processes and to develop the students' capacity for independent research. The program offers opportunity for study and research in biophysical chemistry, cellular physiology, molecular genetics, photobiology, psychophysics and structural biology. Applicants are expected to have strong backgrounds in physical science with undergraduate concentrations in biology, chemistry, mathematics, physics or engineering.

## Faculty Advisory Committee

Associate Professor  
**Christopher Miller**  
 (Biochemistry),  
 Chair

Associate Professor  
**John E. Lisman**  
 (Biology),  
 Co-Chair

Professor  
**Donald Caspar**  
 (Physics)

Professor  
**Carolyn Cohen**  
 (Biology)

Professor  
**Alfred C. Redfield**  
 (Physics and  
 Biochemistry)

The general requirements for admission to the Graduate School are given in an earlier section of this catalog. Applications should include, in addition to letters of reference, a personal statement giving reasons for choosing biophysics and indicating areas of interest. Applicants are required to take the Graduate Record Examination and are encouraged to visit Brandeis for interviews, if possible.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Since Biophysics is very a broad field and students may have widely different backgrounds and goals, the course of study is flexible. During the first year students take Biophysics 300, a course in which students meet with selected faculty members to explore areas of research. Students are also required to successfully complete Biophysics 200b. In addition, students generally complete the following courses: Advanced Biochemistry (Biochemistry 101a), Introduction to Physical Biochemistry (Biophysics 104b), Structural Biology (Biophysics 102b) and Biophysical Optics (Biophysics 101a). Courses to complete the student's program will depend on the student's background and interests. The additional courses may be in the areas of biochemistry, biology, biophysics, chemistry, mathematics, photobiology or physics.

## Admission

The faculty of the Biophysics Program is composed of members of the Biochemistry, Biology, Chemistry and Physics departments. About twenty faculty members participate in this graduate program.

#### Language Requirements.

Reading knowledge of one foreign language, chosen from French, German or Russian. A knowledge of computer programming may be substituted.

#### Admission to Candidacy.

Students are admitted to candidacy on the basis of academic performance and on research proposals that they develop and defend, generally during the second year of study. Students must pass Biophysics 200b in order to qualify for admission to candidacy.

#### Dissertation and Defense.

Each doctoral candidate will submit a dissertation describing his or her research and will be required to defend it in a Final Oral Examination.

**Courses of Instruction**

<b>Biophysics 100a. Photobiology of Cells and Organelles</b>	See Photobiology 100a. Messrs. Gibbs, Schiff and Staff	<b>Biophysics 214a. Molecular Basis for Contractility in Muscle and Non- Muscle Cells</b>	See Biochemistry 214a. Ms. Lowey
<b>Biophysics 101a. The Electron Microscope</b>	□ Not offered 1985-1986. Mr. DeRosier	<b>Biophysics 221b. Metabolic Regulation with Special Reference to Hormonal Regulation</b>	See Biochemistry 221b. Mr. Lowenstein
<b>Biophysics 102b. Structural Biochemistry</b>	See Biology 102b. Ms. Cohen	<b>Biophysics 228b. Thermodynamic Linkages in Protein Interactions</b>	See Biochemistry 228b. Mr. Timasheff
<b>Biophysics 104b. Introduction to Physical Biochemistry</b>	See Biochemistry 104b. Messrs. Timasheff and Fasman	<b>Biophysics 231a. Ion Channel Proteins</b>	See Biochemistry 231a. Mr. Miller
<b>Biophysics 142a. Neurochemistry and Cellular Neurobiology</b>	See Biology 142a. Mr. Lisman	<b>Biophysics 300. Introduction to Research in Biophysics</b>	Students carry out a project in the research laboratory of one of the faculty members. Projects and faculty are selected from the departments of biochemistry, biology, chemistry and physics and the Institute of Photobiology. At least three terms of Biophysics 300 are required. Staff
<b>Biophysics 152b. Biological Assembly</b>	See Physics 152b. Mr. Caspar		
<b>Biophysics 200b. Seminar in Biophysical Research</b>	A required seminar for Biophysics majors which will deal with current biophysical research. Emphasis is on the understanding, critical evaluation and use of scientific literature. Students will discuss topics from the areas of biophysical chemistry, cellular physiology, molecular genetics, photobiology, and structural biology, based on the reading of significant articles. In consultation with the faculty, each student will develop a research proposition based on independent reading and will prepare a research plan in the form of a thesis proposal.  Open to graduate students in other sciences with permission of the instructor.		
	Staff		

# Chemistry

## Objectives

The graduate program in chemistry, comprising course work, seminar participation, and research, is designed to lead to a broad understanding of the subject. The graduate program leads to the M.A. and Ph.D. degrees in chemistry. The Ph.D. is offered with specializations in inorganic, organic, physical and physical-organic chemistry and in chemical-physics. (Detailed information on the interdisciplinary specialization in chemical physics is found on page 37). All students will be required to demonstrate knowledge in advanced areas of inorganic, organic and physical chemistry. The doctoral program is designed to be flexible so that individual programs of study may be devised to satisfy the particular interests and needs of each student. In each case this program will be decided by joint consultation between the student and the Departmental Committee of Graduate Studies and the thesis supervisor, when selected. The doctoral program will normally include a basic set of courses in the student's own area of interest, to be supplemented by advanced courses in chemistry and, where appropriate, in biochemistry, biology, mathematics and physics.

## Faculty

**Professor Irving R. Epstein:** Chair; Experimental and theoretical studies of oscillating chemical reactions and dynamic instabilities; mathematical modeling of biochemical kinetics.

**University Professor Saul G. Cohen:** Chemistry of free radicals; organic photochemistry; specificity and mechanism of reactions of enzymes.

**Professor Ernest Grunwald:** Solvation in polar liquid solutions; molecular structure of ion pairs; structure-energy relationships; concerted reaction mechanism.

Professor **James C. Hendrickson:** Synthesis of natural products; computerization of synthesis design and development of new synthetic reactions.

Professor **Peter C. Jordan:** Statistical mechanics of membrane transport; electrostatic modeling of ion pores; molecular dynamics.

Professor **Kenneth Kustin:** Inorganic biochemistry; vanadium and iron in tunicate blood cells and human tissues; fast reactions; oscillating reactions.

Professor **Henry Linschitz:** Reactions of excited molecules; electron-transfer processes; photo-ionization in solution; metal complexes; physical mechanisms of photo-biological processes.

Professor **Myron Rosenblum:** Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.

Professor **Colin Steel:** Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions; photophysics and photochemistry of infrared laser-induced reactions.

Professor **Robert Stevenson:** Isolation and structure of natural products; compounds of medicinal interest (steroids, terpenoids, lignans, heterocyclics).

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. In addition, the undergraduate curriculum of applicants should include courses in physics and mathematics (differential and integral calculus), and courses in general and inorganic, analytical, organic and physical chemistry.

Admission to advanced courses will be based upon results of a qualifying examination in each of these areas of chemistry, which will be taken upon entrance. These examinations will determine if the student shall be required to make up deficiencies in preparation. The results of the qualifying examinations will be considered in the assignment of awards for the subsequent years of graduate study and in determining a student's eligibility to continue in a degree program.

**Associate Professor Iu-Yam Chan:** Optically detected magnetic resonance; laser spectroscopy.

**Associate Professor Bruce M. Foxman:** X-ray structure determination; coordination polymers; chemical, physical and crystallographic studies of solid-state reactions.

**Associate Professor Michael J. Henchman:** The chemistry of ions in the gas phase; the effect of solvation on reactivity and mechanism.

**Associate Professor Philip M. Keehn:** Synthetic methods, organic synthesis of strained rings and theoretically interesting molecules; applications of NMR spectroscopy to organic systems; photooxidation; pure and applied laser chemistry of organic systems; host-guest complexes.

**Associate Professor Barry B. Snider:** Synthetic methods; mechanism of synthetically important reactions; total synthesis of natural products.

**Assistant Professor Alan M. Stolzenberg:** Bioinorganic chemistry; synthesis, structure, and reactivity of inorganic and organometallic complexes; homogeneous catalysis; electrochemistry and electron transfer.

## Degree Requirements

Detailed information on the interdisciplinary specialization in chemical physics is found on page 37.

Entering students may be admitted to either the master's or the doctoral program. All candidates for advanced degrees are required to meet the following requirements:

### Qualifying Examination.

These examinations are set twice a year, in September and January, and are based on the undergraduate chemistry curriculum. Students are required to take and are expected to pass qualifying examinations in organic, inorganic-analytical and physical chemistry during their first year.

### Language Requirements.

Each student is obliged to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.

### Seminar.

Each student in residence is required to attend and participate in the seminar in his or her chosen area of concentration throughout the period of graduate study.

### Teaching.

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

### Placement and Evaluation of Progress.

Recommendations with respect to the first-year course of study will be based on the performance on the initial qualifying examinations. Admission to the graduate degree programs will be based on the student's record in course work during the first year and the performance on the qualifying examinations.

## Master of Arts

### Program of Study.

Each candidate is required to complete successfully one year of study at the graduate level in chemistry, or, with prior permission of the Departmental Graduate Studies Committee, in related fields. The program will include laboratory work and, normally, six semester courses at the graduate level. The detailed program of study will be one jointly arrived at by the candidate and the Graduate Studies Committee to reflect the candidate's area of interest as well as perspective of other areas.

### Residence Requirement.

The minimum residence requirement for the M.A. degree is one year.

## Doctor of Philosophy

### Program of Study.

A balanced program of study will be prepared by the students and the Departmental Graduate Studies Committee. In general, students will be required to take a minimum of seven graduate level courses, of which two must lie outside the student's field of research. If a student fails to pass a qualifying examination after two attempts, a graduate course has to be taken in that area of chemistry before the end of the second year. For this purpose a list of appropriate courses is available upon request. For students

entering with previous graduate experience, a maximum of five courses may be transferred for credit. It is expected that doctoral students will choose a research adviser during the first year, normally in the second semester.

A student is recommended for admission to candidacy for the doctoral degree upon certification by his or her thesis adviser and the Graduate Studies Committee that the student has satisfied the qualifying and language examination requirements and has made satisfactory progress in the program of study, research and the final Ph.D. examinations.

### Admission to Candidacy.

### Final Examinations.

The graduate student must demonstrate proficiency by taking final examinations in his or her major field: organic, physical-organic, physical, or inorganic chemistry. In the organic chemistry program, a cumulative examination procedure is used. Each year, six one-hour examinations (on unannounced topics), and one three-hour examination (on an announced reading) are given. The final examination requirement is satisfied by the student having passed a) one three-hour examination and six one-hour examinations, or b) two three-hour examinations and three one-hour examinations. In physical-organic chemistry, final examinations are administered twice a year and are based on assigned readings. Students must pass three of these examinations and must maintain satisfactory progress toward this end. In physical chemistry and inorganic chemistry, generally during the third semester of graduate work, the student is assigned a set of propositions. In physical chemistry the set consists of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two. In inorganic chemistry the student is assigned two propositions; he or she takes a written examination on one proposition, and is examined orally on his or her proposed research project and the remaining proposition.

The minimum residence requirement for the Ph.D. degree is two years.

### Residence Requirements.

### Dissertation and Defense.

A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.

**Courses of Instruction**Chemistry 113b.  Not offered 1985-1986.**Advanced Laboratory Techniques: Modern Organic Methods**

Chemistry 121a.  
**Inorganic Chemistry I, Lectures** Introduction to the electronic and molecular structures and kinetics and reaction mechanisms of transmission-metal complexes. Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry. Three lecture hours a week.

Mr. Foxman

Chemistry 130a.  
**Advanced Organic Chemistry: Structure**  Not offered 1985-1986

Chemistry 131a.  
**Advanced Organic Chemistry: Topics in Structure and Reactivity**  Not offered 1985-1986

Chemistry 132b.  
**Advanced Organic Chemistry: Spectroscopy** Application of physical and spectroscopic methods to the elucidation of structure and stereochemistry of organic compounds. Prerequisite: Satisfactory grade in Chemistry 130a or permission of instructor.

Mr. Stevenson

Chemistry 133aR.  
**Advanced Organic Chemistry: Mechanisms** Principles of the determination of reaction mechanisms. Substituent effects. Mechanisms of nucleophilic and electrophilic substitution reactions. Carbocation chemistry. Mechanisms of addition and elimination. Acidity and basicity.

Mr. Grunwald

Chemistry 134b.  
**Advanced Organic Chemistry: Synthesis** Systematic design of organic syntheses, including a survey of reaction for construction and functionalization of organic molecules and criteria for their use in synthesis design. Selected total syntheses from the literature will be examined.

Mr. Hendrickson

Chemistry 137bR.  
**The Chemistry of Organic Natural Products** Natural products chemistry will be surveyed within a biogenetic framework. Occurrence, isolation, structure elucidation, biogenesis and synthesis will be covered with an emphasis on modern methods of establishing biogenesis and biogenetic type synthesis.

Mr. Snider

Chemistry 141a.  
**Advanced Physical Chemistry I**

Thermodynamics and statistical thermodynamics. Properties of real systems: gases phase stability, chemical equilibrium, and solution. Statistical equilibrium, ensembles, and fluctuations. Prerequisite: Satisfactory grade in an undergraduate courses in physical chemistry.

Mr. Steel

Chemistry 141b.  
**Advanced Physical Chemistry I**

Irreversible thermodynamics and chemical kinetics. Entropy production, reciprocal relations, microscopic reversibility and regression of fluctuations. Active transport, relaxation kinetics and oscillating reactions. Solution kinetics including enzyme reactions. Gas kinetics and theories of elementary processes. Microscopic kinetics: energy transfer and collision dynamics.

Prerequisite: Satisfactory grade in Chemistry 141a or permission of instructor.

Mr. Kustin

Chemistry 142bR.  
**Advanced Physical Chemistry II**

Quantum mechanics: waves and operatory methods. Schrodinger's equation, simple model systems, angular momenta, perturbation theory and variational principle. Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry.

Mr. Epstein

Chemistry 143aR.  
**Advanced Physical Chemistry II**

*Permission of instructor required.*

A continuation of 142bR. Quantum chemistry; spin, atomic and molecular structure, spectroscopy, chemical binding, advanced topics.

Mr. Tuttle

Chemistry 144a.  
**Structure and Spectroscopy**

Not offered 1985-1986

Chemistry 147b.  
**Applications of Group Theoretical Methods to Problems in Chemistry**

Not offered 1985-1986

Chemistry 150c.  
**Special Topics in Chemistry**

Not offered 1985-1986.

Biochemistry 100a.  
**Introductory Biochemistry**

See Biochemistry 100a.

Section 1: Ms. Lowey and Mr. Murakami  
Section 2: Messrs. Abeles and Jencks

Biochemistry 100aR. <b>Introductory Biochemistry</b>	See Biochemistry 100a. Mr. Fasman and Mr. Newman	Chemistry 250c. <b>Chemical Physics Seminar</b> Staff	Required of graduate students in chemical physics, who must audit this course each year.
Chemistry 200. <b>Advanced Chemistry Laboratory</b>	Staff	The following courses are given every three to five years or when there is sufficient student interest:	
Chemistry 220c. <b>Inorganic Chemistry Seminar</b>	Required of graduate students in inorganic chemistry, who must audit this course each year. Staff	Chemistry 122b. <b>Inorganic Chemistry II, Lectures</b>	<input type="checkbox"/> Not offered 1985-1986
Chemistry 229b. <b>Special Topics in Inorganic Chemistry</b>	<input type="checkbox"/> Not offered 1985-1986.	Chemistry 123b. <b>Nuclear Chemistry</b>	<input type="checkbox"/> Not offered 1985-1986.
Chemistry 231c. <b>Organic Chemistry Seminar</b>	Required of graduate students in organic chemistry, who must audit this course each year. Staff	Chemistry 248a. <b>Advanced Quantum Chemistry</b>	<input type="checkbox"/> Not offered 1985-1986.
Chemistry 232b. <b>Chemistry of Heterocyclic Compounds</b>	<input type="checkbox"/> Not offered 1985-1986.	<b>Chemistry Colloquium</b> Lectures by faculty and invited speakers. Required of all graduate students. Non-credit.	
Chemistry 234b. <b>Chemistry of Organometallic Compounds</b>	<input type="checkbox"/> Not offered 1985-1986.	<b>Courses in Research</b>	
Chemistry 235b. <b>Special Topics in Organic Chemistry</b>	The synthesis of complex targets will be covered with an emphasis on synthesis design and control of absolute and relative stereochemistry. Mr. Snider	Chemistry 400. <b>Organic Chemistry and Physical Organic Chemistry</b> Mr. Cohen	Reaction mechanisms; photochemistry; enzyme reactions; free radicals.
Chemistry 237bR. <b>The Chemistry of Organic Natural Products</b>	<input type="checkbox"/> Not offered 1985-1986.	Chemistry 401. <b>Organic Chemistry</b> Mr. Stevenson	Chemistry of natural products; steroids, triterpenoids, bisarylpropanoids, benzofurans.
Chemistry 240c. <b>Physical-Organic Chemistry Seminar</b>	Required of graduate students in physical-organic chemistry, who must audit this course each year. Staff	Chemistry 403. <b>Organic Chemistry</b> Mr. Rosenblum	Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes. Electroactive organometallic polymers.
Chemistry 241c. <b>Physical Chemistry Seminar</b>	Required of graduate students in physical chemistry, who must audit this course each year. Staff	Chemistry 404. <b>Organic Chemistry</b> Mr. Hendrickson	Synthesis of natural products; development of new synthetic reactions; computerization of synthesis design systematics.
Chemistry 243aR. <b>Statistical Thermodynamics</b>	Elementary statistical mechanics of systems in equilibrium; Boltzmann, Fermi-Dirac and Bose-Einstein statistics; microcanonical, canonical and grand canonical ensembles; applications to thermodynamic systems. Mr. Jordan	Chemistry 406. <b>Physical Chemistry</b> Mr. Linschitz	Reactions of excited molecules: luminescence; electron-transfer processes; metal complexes; physical mechanisms of photobiological processes.

Chemistry 408. <b>Physical Chemistry</b>	Experimental and theoretical study of chemical species in solution. Spectroscopic investigations of metal solutions in polar solvents.	Chemistry 415. <b>Physical Chemistry</b>	Experimental and theoretical studies of oscillating chemical reactions and dynamic instabilities; mathematical modeling of biochemical kinetics.
	Mr. Tuttle		Mr. Epstein
Chemistry 409. <b>Inorganic Chemistry</b>	Inorganic biochemistry; vanadium and iron in tunicate blood cells and human tissues; fast reactions; oscillating reactions.	Chemistry 416. <b>Physical Chemistry</b>	Optically detected ENDOR investigation of organic triplet state molecules. Interaction between an electronically excited molecule and lattice phonon. Supersonic jet spectroscopy on large molecules.
	Mr. Kustin		Mr. Chan
Chemistry 411. <b>Physical Chemistry</b>	Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions. Photophysics and photochemistry of infrared laser-induced reactions.	Chemistry 417. <b>Organic Chemistry</b>	Organic synthesis of strained rings and theoretically interesting molecules; synthetic methods; application of nuclear magnetic resonance spectroscopy to organic systems; photooxidation; thermal chemistry; pure and applied laser chemistry of organic systems; enclathration and host-guest complexation in tri- <i>o</i> -thymotide.
	Mr. Steel		Mr. Keehn
Chemistry 412. <b>Physical and Physical Organic Chemistry</b>	Molecular electronic spectra and conformational studies at high temperatures; solvation in polar liquid solutions; molecular structure of ion pairs.	Chemistry 419. <b>Inorganic Chemistry</b>	X-ray structure determination; coordination polymers; reactions in crystals; kinetics, mechanisms, and crystallography of rearrangement, polymerization and decomposition reactions in the solid-state.
	Mr. Grunwald		Mr. Foxman
Chemistry 413. <b>Physical Chemistry</b>	Membrane transport; electrostatic modeling of ion pores; molecular dynamics of ionic motion in biological molecules.	Chemistry 421. <b>Organic Chemistry</b>	Synthetic methodology and natural product synthesis: Lewis acid induced carbon-carbon bond forming reactions of alkenes and their application to natural product synthesis; intramolecular reactions; ene and Prins reactions; synthesis of biologically active natural products.
	Mr. Jordan		Mr. Snider
Chemistry 414. <b>Physical Chemistry</b>	Kinetic studies of the reactions and properties of ions and solvated ions in the gas phase.	Chemistry 422. <b>Inorganic Chemistry</b>	Bioinorganic chemistry. Coordination chemistry of porphyrins, hydroporphyrins, and related macrocycles. Organometallic chemistry. Chemistry of metallacycles.
	Mr. Henchman		Mr. Stolzenberg

**Ph.D. in Chemistry  
with Specialization  
in Chemical Physics**

The graduate program in chemical physics is an interdisciplinary specialization designed to meet the needs of students who wish to prepare themselves for the study of scientific problems using the methods and theories of modern physics and physical chemistry. This objective is attained by (1) formal course work in chemistry, physics, and, possibly, mathematics; (2) participation in relevant graduate seminars; (3) a program of supervised research involving chemical physics; (4) independent study.

The program is designed to be flexible in providing individual programs of study to satisfy the particular interests and needs of each student. Final programs of study and research will be jointly arrived at by the student, his or her research supervisor and the Chemical Physics Committee. Only candidates for the Ph.D. will be accepted.

**Admission**

The general requirements for admission to the Graduate School apply to candidates for admission to the graduate program in chemical physics. Applicants should have a strong undergraduate background in chemistry, physics and mathematics.

**Degree Requirements**

No master's degree is offered with specialization in chemical physics, but students who satisfy the appropriate requirements will be eligible for the M.A. degree in chemistry.

All candidates for the Ph.D. degree in Chemistry with specialization in chemical physics must meet the following requirements:

**Qualifying  
Examinations.**

Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry, physics and mathematics by the performance in three qualifying examinations: one organic or inorganic/analytical chemistry and one each in physical chemistry/physics/mathematics. These examinations are set twice a year, in September and January. Results of these examinations will be used as an aid in constructing the student's initial program of course work and will be considered by the Chemical Physics Committee in evaluating the student's progress.

**Language  
Requirements.**

Each student is required to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.

**Seminar.**

Each student in residence is required to attend and to participate in the Chemical Physics Seminar. Participation in other seminars in physics and chemistry is also recommended.

**Teaching.**

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

**Doctor of Philosophy****Program of Study.**

It is expected that some candidates for the Ph.D. degree in chemistry with specialization in chemical physics may require a longer period of time in course work than will students in either of the fields of physics or chemistry. In general, the program for the Ph.D. in chemistry with specialization in chemical physics will include eight semester graduate courses: four in physical chemistry, one in either organic or inorganic chemistry and three in physics. No specific course work in mathematics is required, but students are expected to be familiar with the techniques necessary for the proper pursuit of their research. In addition, each student is expected to demonstrate a knowledge of elementary computer programming.

Students may satisfy their program's course requirements in part or in entirety by passing (or giving evidence of ability to pass) the final examination in the appropriate number of such courses. Courses in areas related to chemistry and physics may also be considered by the Chemical Physics Committee in partial fulfillment of the requirements.

**Admission to  
Candidacy.**

Students are recommended for admission to candidacy for the doctoral degree upon certification by their thesis adviser and the Chemical Physics Committee that they have satisfied the qualifying and language examination requirements and have made satisfactory progress in the program of study, research and the final Ph.D. examination.

**Final Examinations.**

Final examinations in chemical physics are generally taken during the third semester of graduate work. The student is assigned a set of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two.

**Residence  
Requirements.**

The minimum residence requirement for the Ph.D. degree is two years.

**Dissertation and  
Defense.**

A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.

## Cognitive Science

see Psychology.

## Comparative History

### Objectives

The graduate program in comparative European history leads to the degree of Doctor of Philosophy. It trains students to approach the past from a comparative perspective. This method represents the most fruitful way to interpret the past, and the program fosters it in two ways. First, students will develop expertise in two broad fields of history — either medieval and early modern or early modern and modern. Second, they will study their fields from a thematic approach which transcends national boundaries and moves away from conventional periodization.

The comparative history program gives students a broad understanding of the development of Europe and fosters the ability to make cross-cultural comparisons. The thematic approach is central to the process. The Brandeis history faculty is exceptionally diverse in its interests and offers the student a variety of approaches to the past: the study of political structure, economics, the family, social organization, psychohistory, culture and thought. Each student will read widely on two of these subjects and in the process learn what developments were unique and which ones were comparable over time and space. Finally, students will take a non-European field drawn from the Americas, the Near East or the Far East.

The program is designed to prepare students for the competitive academic environment of the next decade. It trains them in methods of historical research and equips them to teach a broad range of subjects. On a deeper level, comparative history fosters intellectual flexibility and interdisciplinary skills which can be creatively employed both inside and outside academia.

A small, select student body will work in close cooperation with the faculty. Most instruction will take place in seminars specifically designed for graduate students or in individual conferences with faculty advisers. From the beginning, the curriculum will help students prepare for their qualifying examinations and guide them toward eventual dissertation research.

During the first year, students must prepare a major research paper on a topic chosen in consultation with a principal adviser. The paper may be comparative in research (involving two or more symmetrical case studies), or it may focus upon a single case (with that research informed by a reading of secondary literature on similar cases). The paper constitutes the major intellectual enterprise of the first year, and students allot half their time to it in the

first semester. First-year students also enroll in two introductory graduate colloquia, which cover the early modern and modern periods. During both of their first two years of residence, students must also enroll in the comparative history seminar, which treats significant problems in comparative perspective and introduces students to the methods and issues in comparative history. Students must also enroll in the historiography colloquium (offered alternate years). Finally, before they may take the qualifying examination all students must complete a tutorial or other work focusing on a part of the world geographically or chronologically removed from their principal area of specialization with a view to gaining a comparative perspective on their major research interest.

Students are expected to have a general mastery of two broad fields of history, either medieval and early modern or early modern and modern history. Specifically, they must demonstrate a mastery of two thematic fields within their general fields. These thematic fields will normally be chosen from such approaches as cultural, diplomatic, economic, family, intellectual, political and social history. With the approval of the faculty, a student may substitute a methodological field, such as psychohistory, anthropological history or quantitative history for half of one conventional theme. Students may also petition to substitute the medieval period for a portion of the early modern period.

Students should normally plan to complete all work for the doctorate, including the dissertation, within four to five years after entering the program; prolongation of study past the sixth year is discouraged.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. Students with a sound preparation in history and who have demonstrated unusual imagination and critical insight will receive special consideration. Undergraduate majors in the other social sciences or in allied fields such as comparative literature may, however, apply. Applicants should submit a sample of written work, preferably in European history. Only doctoral candidates will be accepted into the regular program. Unusually well-qualified students with distinguished records who wish to obtain a master's degree in modern history before going on to further training in such fields as law, business, diplomacy, social work, journalism or medicine, or who have already earned degrees in these fields, may also be admitted.

## Faculty

Associate Professor  
**William E. Kapelle**  
 Chair:  
 Medieval history.

University Professor  
**Frank E. Manuel**:  
 Modern European  
 intellectual history.

Professor  
**Rudolph Binion**:  
 Modern history. Cul-  
 ture and thought.  
 Psychohistory.

Professor  
**Eugene C. Black**:  
 Modern history. Polit-  
 ical and social  
 institutions.

Professor  
**John P. Demos**:  
 Early modern history.  
 Social institutions.

Professor  
**David H. Fischer**:  
 Modern history. Social  
 institutions.

Associate Professor  
**Gregory Freeze**:  
 Russia and Germany.  
 Social history.

Professor  
**Morton Keller**:  
 Legal and political  
 institutions.

Professor  
**Stephen A. Schucker**:  
 Modern diplomatic,  
 economic, political  
 and business history.

Professor  
**Bernard Wasserstein**:  
 Modern European,  
 Jewish and Near East-  
 ern history.

Assistant Professor  
**Samuel Cohn**:  
 Renaissance and early  
 modern history.

Assistant Professor  
**Alice Kelikian**:  
 Modern history. Social  
 institutional history.

Assistant Professor  
**James Kloppenburg**:  
 Intellectual and cul-  
 tural history.

Assistant Professor  
**Robert Schneider**:  
 Early modern history.

## Degree Requirements

### Master of Arts

An M.A. degree in History will be awarded to those students who have satisfactorily completed one year of residence as a full time student, fulfilled the first year language requirement and passed a special examination at the master's level. Students who have completed the Ph.D. qualifying examinations and the stated requirements for the master's degree automatically qualify for conferral of the master's degree.

### Doctor of Philosophy

#### Program of Study.

During the first year in the program, students will complete a major research paper and the two colloquia in European history. Within the first two years, they must also take a historiography course and two seminars in comparative history, besides fulfilling the geographical outside-field requirement.

#### Language Requirement.

The use of foreign languages is an essential tool for the comparative historian. Each student will be expected to pass, upon admission, one language examination testing the ability to read historical prose with a dictionary. The second language examination must be passed before the student registers for the third semester. All students must show competence in either French or German; for the second language another major tongue relevant to the student's research interests may be substituted.

#### Qualifying Examination.

Normally the student will take the qualifying examination at the end of the second year of study. Any student who has failed to complete the qualifying examination by the sixth semester will be dropped from the program.

#### Dissertation Preparation and Category Examination.

The student will normally define a dissertation topic in the term preceding the qualifying examination but in no case later than the end of the fifth semester in the program.

During the third year, students will make an oral presentation setting their proposed dissertation topic in comparative perspective; this is called the "category examination." The student will, when feasible, spend the third or fourth year in the program abroad pursuing research for the dissertation. Arrangements can be made for conferences with foreign scholars who can advise on the subject of the research.

#### Admission to Candidacy.

A student may be admitted to candidacy for the Ph.D. degree when he or she has completed course and residence requirements, demonstrated proficiency in the required foreign languages, passed the qualifying examination and gained approval of his or her dissertation topic by the faculty of the program.

#### Dissertation Defense.

When the student's dissertation committee accepts the completed dissertation, the candidate must defend it at a final oral examination.

**Courses of Instruction****Seminars**

History 190aR.  Not offered 1985-1986.  
**Historiography**

History 200a.  
**Colloquium in Comparative History Since the 18th Century**  
 Comparative examination of major historical issues in Europe from the eighteenth through the twentieth centuries.  
 Mr. Wasserstein

Comparative History  
 201b.

**Colloquium in Early Modern Comparative History** Mr. Cohn

Comparative History  Not offered 1985-1986  
 202bR.

**Seminar in Comparative History: Town and Country**

Comparative History  Not offered 1985-1986.

203b.

**Seminar in Comparative History: Death in History**

Comparative History 301 — 319a and b.  
**Research Papers**

301a and b. Mr. Binion	310a and b. Mr. Schuker
302a and b. Mr. Black	312a and b. Mr. Wasserstein
303a and b. Mr. Demos	313a and b. Mr. Cohn
304a and b. Mr. Fischer	314a and b. Mr. Kapelle
305a and b. Mr. Freeze	315a and b. Ms. Kelikian
306a and b. Mr. Keller	318a and b. Mr. Kloppenborg
307a and b. Mr. Manuel	319a and b. Mr. Schneider
309a and b. Mr. Schrecker	

Comparative History  
 321 — 339a and b.  
**Readings**

321a and b. Mr. Binion	329a and b. Mr. Schrecker
322a and b. Mr. Black	332a and b. Mr. Wasserstein
323a and b. Mr. Demos	333a and b. Mr. Cohn
324a and b. Mr. Fischer	334a and b. Mr. Kapelle
325a and b. Mr. Freeze	335a and b. Ms. Kelikian
326a and b. Mr. Keller	338a and b. Mr. Kloppenborg
327a and b. Mr. Manuel	339a and b. Mr. Schneider

Comparative History 401. Mr. Binion  
 402. Mr. Black  
**Dissertation Research** 403. Mr. Demos  
 404. Mr. Fischer  
 405. Mr. Freeze  
 406. Mr. Keller  
 407. Mr. Manuel  
 409. Mr. Schrecker

Comparative History

500.

**Registration in Time**

In addition the following courses may be taken as equivalent to Comparative History seminars.

History 110a.  
**The Civilization of the Early Middle Ages** Mr. Kapelle

History 110bR.  
**The Civilization of the High and Late Middle Ages**  Not offered 1985-1986

History 112b.  
**The Crusades and the Expansion of Medieval Europe** Mr. Kapelle

History 113a.  
**English Medieval History**  Not offered 1985-1986

History 123aR. <b>The Renaissance</b>	Mr. Cohn	History 133a. <b>The Enlightenment</b>	Mr. Manuel
History 123b. <b>The Reformation</b>	<input type="checkbox"/> Not offered 1985-1986	History 133b. <b>Topics in 19th and 20th Century Intellectual History</b>	Mr. Binion
History 124a. <b>Topics in English Constitutional and Legal History</b>	<input type="checkbox"/> Not offered 1985-1986	History 134a. <b>19th Century Europe: From Revolution to National Unification</b>	Mr. Black
History 124b. <b>Social and Cultural Transformations: The Renaissance and the Reformation</b>	<input type="checkbox"/> Not offered 1985-1986	History 134b. <b>19th Century Europe: Nationalism, Imperialism, Socialism (1870-1914)</b>	<input type="checkbox"/> Not offered 1985-1986.
History 125a. <b>The General Crisis of the 17th Century in Europe</b>	<input type="checkbox"/> Not offered 1985-1986	History 135a. <b>The Jews of Central and East-Central Europe, 1740-1939</b>	<input type="checkbox"/> Not offered 1985-1986.
History 126b. <b>Tudor-Stuart England</b>	Mr. Schneider	History 136a. <b>The Rise of Modern Germany, 1648-1848</b>	<input type="checkbox"/> Not offered 1985-1986.
History 127bR. <b>L'Ancien Régime: State and Society in Pre-Revolutionary France</b>	Mr. Schneider	History 136b. <b>Germany, 1849-1949</b>	<input type="checkbox"/> Not offered 1985-1986.
History 130a. <b>The French Revolution</b>	<input type="checkbox"/> Not offered 1985-1986	History 137a. <b>Evolution of International System, 1815-1945</b>	<input type="checkbox"/> Not offered 1985-1986
History 131b. <b>Topics in Modern Social History: Industrialization and Social Change in Europe</b>	<input type="checkbox"/> Not offered 1985-1986	History 138a. <b>Economy and Society in Europe, 1750-1900</b>	<input type="checkbox"/> Not offered 1985-1986
History 132a. <b>Modern European Thought and Culture: Marlowe to Mill</b>	<input type="checkbox"/> Not offered 1985-1986	History 138bR. <b>Industrial and Social Change, 1900 to the Present</b>	Ms. Kelikian
History 132bR. <b>European Thought and Culture Since Darwin</b>	Mr. Binion	History 139aR. <b>Women, Work and Family</b>	Ms. Kelikian

History 139b. <b>Fascism East and West</b>	<input type="checkbox"/> Not offered 1985-1986.	History 180aR. <b>Modern China</b>	<input type="checkbox"/> Not offered 1985-1986.
History 141bR. <b>Studies in British History — 1830 to the Present</b>	Mr. Black	History 181bR. <b>Seminar on Chinese Thought</b>	Mr. Schrecker
History 142bR. <b>Twentieth Century Europe</b>	<input type="checkbox"/> Not offered 1985-1986.	History 183bR. <b>The Great Powers of the Middle East</b>	<input type="checkbox"/> Not offered 1985-1986.
History 146b. <b>Topics in German History: Hitler, Germany and Europe</b>	<input type="checkbox"/> Not offered 1985-1986.	History 184a. <b>Arabs and Jews in Palestine, 1881-1948</b>	<input type="checkbox"/> Not offered 1985-1986.
History 147a. <b>Rise of Imperial Russia</b>	Mr. Freeze	History 186b. <b>The Vietnam War</b>	Mr. Schrecker
History 147b. <b>Russia Since 1861</b>	Mr. Freeze	History 191a. <b>History and Psychology</b>	Mr. Demos
History 149a. <b>Topics in Soviet History</b>	Mr. Freeze	History 194b. <b>Politics and Diplomacy in Europe, 1914-1945</b>	<input type="checkbox"/> Not offered 1985-1986

## Comparative Literature

See Joint Program of Literary Studies.

# Computer Science

## Objectives

Research in computer science at Brandeis is concerned with the fundamental concepts that underlie the creation and use of computing devices. This includes the study of the capabilities and limitations of various models of computation, the design of efficient computer algorithms, semantics of programming languages, artificial intelligence, the principles underlying the mechanical processing of information, and the organization of information for computer processing. The graduate program in computer science is designed to educate the student in advanced areas of computer science and train the student to engage in original research. The program is designed primarily to lead to the Doctor of Philosophy degree.

## Faculty

Professor **Jacques Cohen**, Chair: Compiler design. Analysis of algorithms. Logic programming. Data structure.

Visiting Professor **Martin Cohn**: Information theory. Codes. Sequences. Data compression.

Professor **David L. Waltz**: Artificial intelligence. Natural language processing. Vision. Robotics.

Visiting Associate Professor **Edward Balkovich**: Distributed computing. Associate Professor **Max Chretien**

## Admission

The general requirements for admission to the computer science graduate program are the same as those for the graduate school as a whole. Funds from research grants and fellowships are available to provide financial support for well-qualified students.

## Degree Requirements

### Master of Arts

One year's residence as a full-time student.  
Satisfactory completion of an approved schedule of courses.  
Satisfactory performance on the qualifying examination.

### Doctor of Philosophy

Two years' residence as a full-time student.  
Completion of the requirements for the Master of Arts with superior performance on the qualifying examination.  
Completion of a doctoral dissertation that is approved by the department, and successful defense of that dissertation.

### Program of Study

An approved schedule of courses typically consists of eight to ten graduate courses at the 100 and 200 level, which may include a small number of courses from other departments (e.g., mathematics, psychology, and physics). These courses are supplemented with independent study in preparation for the qualifying examination. The qualifying examination

Assistant Professor **Ira M. Geselle**: Combinatorics. Algorithms.

Assistant Professor **Timothy J. Hickey**: Complexity. Analysis. Logic programming and parallel processing. Symbolic manipulation.

Visiting Assistant Professor **Harry G. Mairson**: Theory. Analysis of algorithms. Lower bounds.

Assistant Professor **James A. Storer**: Computational complexity. Design and analysis of algorithms. Parallel algorithms. Data compression. VLSI layout. Computational aspects of robotics.

Lecturer with Rank of Assistant Professor **Alex T. Prengel**

is normally taken at the end of the second year. The Ph.D. dissertation is normally written during the third and fourth years. It is expected that during this time the student will participate in advanced seminars (computer science courses numbered in the 300's) and other departmental research activities.

### Qualifying Examinations

The qualifying examination consists of two parts. The first part consists of a set of four written examinations in areas selected by the student and approved by the faculty. The second part of the qualifying examination is an oral examination to be administered by the computer science faculty.

### Language Requirement

There is no foreign language requirement for either the master's or the doctoral degrees.

### Admission to Candidacy

To be admitted to candidacy for the Ph.D. degree in Computer Science, the student must complete the requirements for the Master of Arts degree with superior performance on the qualifying examinations.

### Dissertation and Defense

The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

**Courses of Instruction**

<b>Computer Science 110a. Artificial Intelligence</b>	Artificial intelligence principles and state-of-the-art. Knowledge representation, knowledge based systems, reasoning, learning, natural languages understanding, machine vision, massively parallel models of cognition; selected relevant results from psychology and linguistics.	<b>Computer Science 180a. Algorithms</b>	<input type="checkbox"/> Not offered 1985-1986	Basic concepts in the theory of algorithm design and analysis, including: advanced data structures and algorithms, NP and PSPACE completeness parallel algorithms, and specialized topics selected by the instructor.
<b>Computer Science 120b. Computer Architecture</b>	The design and analysis of data communication networks. Topics will include protocols, switching, topology, and measurement. Examples will be drawn from existing network architecture.	<b>Computer Science 190a. Theory of Computation</b>	<input type="checkbox"/> Not offered 1985-1986	A gradual introduction to the theory of computation. Topics covered include formal language and automata, undecidability and computability, complexity classes, relativized problems, elementary recursion theory, automatic theorem proving and inductive inference.
<b>Computer Science 140a. Logic Programming</b>	Relationship of Prolog to predicate calculus, horn clauses, unification algorithms, intelligent backtracking, infinite trees, inequalities, implementation issues, concurrent Prolog.	<b>Computer Science 230a. Computational Aspects of VLSI</b>	The course is primarily concerned with the theoretical issues involved with the design and layout of VLSI circuits, however, many practical issues will be addressed along the way; in particular, students will be required to design a small nMOS chip. Topics covered include: circuit layout, resource trade-offs and limits to computations, parallel computation, computation networks, systolic arrays, VLSI design tools, "silicon compilation," and concepts motivated by future technology (e.g., 3D circuits, wafer-scale integration, optical circuits, etc.).	
<b>Computer Science 150a. Compiler Design</b>	<input type="checkbox"/> Not offered 1985-1986 Covers advanced topics in parser and lexical scanner generation, data flow analysis, code generation, parallel compilation.	Mr. Storer		
<b>Computer Science 160a. Parallel and Distributing Computing</b>	<input type="checkbox"/> Not offered 1985-1986 An introduction to distributing computing. Topics include the description of the basic problems — mutual exclusion, dining philosophers, cooperation; centralized solutions vs. distributed solutions; communication by shared memory vs. communication by messages; shared memory models: read-write variables vs. read-only variables test vs. test-and-set; message passing systems: types of lines of communication; language issues: parallelism in Simula, PL/I, Algo 168 (semaphores) Monitors, CS, Ada, Scheme; semantic issues: denotational semantics for parallelism; synchronous models (e.g. PRAM's and Ultracomputers).	<b>Computer Science 240a. Semantics of Programming Languages</b>	Mathematical description of basic concepts of programming languages. Modeling using the lambda-calculus. Derivation of compilers from formal descriptions of languages.	
		To be announced		
<b>Computer Science 170b. Information Theory and Cryptology</b>	This course will examine the theory of representing information compactly and securely. The Shannon theory shows the duality between reliability and security. One-way ciphers and public-key systems currently under scrutiny rely on the computational complexity of algorithms. We will examine these new approaches as well as traditional secrecy systems both from the standpoint of the designer and the cryptanalyst.	<b>Computer Science 285a. Advanced Topics in Algorithms and Computational Complexity</b>	<input type="checkbox"/> Not offered 1985-1986	Content of course will vary from year to year.
			<input type="checkbox"/> Not offered 1985-1986	310. <b>Seminar in Artificial Intelligence</b>
		<b>Computer Science 340. Seminar in Programming Languages</b>	<input type="checkbox"/> Not offered 1985-1986	
		<b>Computer Science 390. Seminar in Theory of Computation</b>	<input type="checkbox"/> Not offered 1985-1986	
		<b>Computer Science 400-404. Dissertation Research</b>	400. Mr. Cohen 401. Mr. Waltz 402. Mr. Gessel 403. Mr. Hickey 404. Mr. Storer	

## Cross-Registration at Boston College, Boston University and Tufts University

A full-time graduate student at Brandeis University may enroll in one graduate course at Boston College, Boston University or Tufts University. Brochures suggesting courses for cross-registration at each of the host institutions are available at the graduate school office of each institution.

A student who wishes to enroll in a course at one of these institutions should consult with the instructor in the particular course and should expect to satisfy the prerequisites and requirements normally required

for admission to the course, including adherence to the academic calendar of that course.

A student at Brandeis University who wishes to enroll in a graduate course at one of the host institutions should obtain a registration permit from the Graduate School Registrar and should present this permit to the Graduate School Registrar of the host institution.

## Economics

Although the University does not offer graduate study in Economics, it does offer a significant group of upper-level courses which may be of interest to graduate students in other departments. These courses receive graduate credit on permission of the student's adviser.

### Courses of Instruction

**Economics 26a.  
Economy of Israel** The course examines Israel's economic history and growth. It investigates various issues in labor economics, industrial organization, inflation and trade.  
Mr. Plessner

**Economics 27b.  
Economy of Japan** This course examines Japan's economic history and growth. It investigates various issues in labor economics, industrial organization, inflation and dependence on trade.  
Mr. Evans

**Economics 32b.  
Comparative  
Systems** Analysis of structure and performance of alternative economic systems. Theoretical models to be discussed are capitalism and several varieties of socialism: utopian, market, and authoritarian. Among real world analogs, extensive attention will be given to the Soviet economy; others include the Yugoslavs, the Chinese and at least one West European "mixed" economy in which public ownership, private enterprise and some form of economic social planning play substantial roles.  
Mr. Schwalberg

**Economics 38b.  
Economic Policy  
Issues** Six topics will be studied with the objective of applying tools of economic analyses to the understanding of important United States problems and to the development of responsible policy positions. The topics are 1) minority development, 2) the control of inflation, 3) energy dependence, 4) reviving productivity gains, 5) immigration, 6) the burden of the aged. There will be class presentations and discussions of alternative analyses and policies.

Mr. Weckstein

**Economics 44b.  
Economics of the  
Arts**

The application of economic analysis to both the performing arts and the visual arts. We shall examine questions of productivity, public subsidy, and the nature of demand. In addition, special topics such as industry structure, pricing policies, copyright, public television and labor unions will be covered.

Mr. Filer

**Economics 46bR  
World Trade and  
Development**

A study of the role of trade and finance in economic development. Attention will be given to the effects of capital movements of oil price increases and wealth changes, of changes in the world monetary regime and the performance of major world financial institutions. The adaptation of these changes by specific countries will be the subject of individual research papers. There will be an opportunity for the presentation of student papers.

Mr. Weckstein

**Economics 57a.  
Environmental  
Economics**

This course will deal with insights from economic theory into the optional pricing and usage of both renewable and nonrenewable natural resources. Emphasis will be placed on questions of environmental policy.

Mr. Lurie

**Economics 60a.  
International  
Economic Policy**

Introduction to international economic analysis through policy issues. Specific policy problems, such as the protectionist response triggered by the extraordinary growth of U.S. auto imports over the past fifteen years, provide a laboratory for examining and testing theories in two main branches in international economics: trade and protection, and finance and foreign exchange.

Mr. Coiner

<b>Economics 74bR. Law and Economics</b>	<p>A study of economic foundations of American law in selected areas of interest. Topics will include: the role of property rights and liability rules in the control of externalities; controlling the cost of accidents; the control of criminal behavior; product failure and damage; medical malpractice. The effects of judgments and status will be studied.</p> <p><i>Prerequisite:</i> ECON 2a.</p> <p>Mr. Weckstein</p>	<b>Economics 84b. Econometrics</b>	<p>An introduction to the construction and testing of econometric models. Both single and multiple equation models will be studied.</p> <p><i>Prerequisite:</i> ECON 80a, 82b, 83a.</p> <p>Mr. Lewbel</p>
<b>Economics 80a. Microeconomics</b>	<p>Analysis of the behavior of economic units within a market economy. Emphasis upon individuals' decisions as demanders of goods and suppliers of resources and firms' decisions as suppliers of goods and demanders of resources under various market structures. Related topics such as welfare and efficiency, market failure, and general equilibrium.</p> <p>Section 1: Mr. Schwalberg Section 2: Mr. Schwalberg</p>	<b>Economics 86b. Quantitative Economic Models</b>	<p>Study of various types of quantitative models in applied economic analysis and forecasting, including input-output, linear programming and macromodels.</p> <p>Mr. Petri</p>
<b>Economics 80aR. Microeconomics</b>	<p>Mr. Lurie</p>	<b>Economics 134bR. Public Finance</b>	<p>The theory of government and collective activities; the effects of taxation on efficiency and equity; problems of cost and choice in government expenditures. Special attention to Reagan budget changes and the proposals to require a balanced budget.</p> <p>Mr. Williams</p>
<b>Economics 82b. Macroeconomic Theory</b>	<p>The meaning of the national income concepts; the factors determining the level of national income, employment and prices; the influence of fiscal and monetary policies; theory of economic growth.</p> <p><i>Prerequisite:</i> ECON 8b.</p> <p>Section 1: Mr. Coiner Section 2: Mr. Jefferson</p>	<b>Economics 135a. Industrial Organization</b>	<p>Economic analysis of American industry in terms of market structure, conduct and performance. Topics included are business organization, concentration, barriers to entry, price and product policies, profits, efficiency and productivity.</p> <p><i>Prerequisite:</i> ECON 80a.</p> <p>Mr. Lurie</p>
<b>Economics 82bR. Microeconomic Theory</b>	<p>Section 1: Mr. Jefferson Section 2: Mr. Jefferson</p>	<b>Economics 136bR. Managerial Economics</b>	<p>An application of the skills of the economists to problems of modern managers in business, the public sector and non-profit private institutions.</p> <p>Mr. Lewbel</p>
<b>Economics 83a. Statistics for Economic Analysis</b>	<p>A first course in statistical inference. Topics include descriptive statistics, probability, normal and binomial distributions, joint distributions, sampling distributions, point and interval estimation, properties of estimators, testing of hypotheses, simple and multiple regression, analysis of variance.</p> <p><i>Prerequisite:</i> ECON 2a.</p> <p>Section 1: Mr. Williams Section 2: Mr. Williams</p>	<b>Economics 159b. The Economics of Education</b>	<p>Economic analysis of education as a form of investment in human capital. Major topics include the evaluation of educational programs, the financing of higher education, some economics of primary and secondary education, and the impact of education upon economic growth and the distribution of income.</p> <p>Mr. Schwalberg</p>
<b>Economics 83aR. Statistics for Economic Analysis</b>	<p>Section 1: Mr. Dolbear Section 2: Mr. Dolbear</p>	<b>Economics 160a. International Trade and Finance</b>	<p>Analysis of the causes and effects of international trade. The interaction of international trade and growth. The spread of multinational enterprises. Introduction to foreign exchange markets and the balance of payments. Eurodollars. The problem of achieving internal and external macroeconomic balance. History of the monetary system since World War II.</p> <p>Mr. Petri</p>

<b>Economics 161a. Multinational Corporation</b>	<p>The economic theory of direct foreign investment is developed and applied in the analysis of the history of the multinational corporation. The problem raised by these compromises are examined and various solutions considered. The policies of both home countries and host countries are analyzed and evaluated.</p>	<b>Economics 176aR. Labor Market Economics</b>	<p>The application of economic theory to the labor market. Issues discussed will include workers' decisions regarding labor supply, firms' demands for labor, education and training, unemployment and discrimination in the labor market. Attention will be given to how the labor market decisions and experiences of various groups (such as women, minorities and youth) differ.</p>
<b>Mr. Kindleberger</b>			<b>Mr. Filer</b>
<b>Economics 162b. Financial History of Western Europe</b>	<p>The history of the development of money, banks, and other financial institutions of Western Europe from the industrial revolution to the present.</p>	<b>Economics 179b. The Legal Regulation of Economic Activity</b>	<p>This course will examine the reasons for economic regulation in certain industries and the effects of regulation on efficiency, distribution of income, and innovation. Special emphasis will be placed on antitrust laws and public utility regulation. Other topics will include price discrimination, quality regulation, product safety, and environmental considerations.</p>
<b>Mr. Kindelberger</b>			<b>Mr. Weckstein</b>
<b>Economics 165a. Growth and Technical Change: The Chinese Experience</b>	<p>A study of both classical and modern theories of the processes of growth, technical change and economic transformation, with a focus on the empirical experience of China. The course will examine the ways in which economic consequences of various experiments and reforms undertaken during the modern period.</p>	<b>Economics 182a. Advanced Macroeconomics</b>	<p>This course extends the analysis of macroeconomic issues introduced in ECON 82b. Special topics include: inflation, unemployment, supply-side economics, expectations, growth, monetarism, deficit spending, long-run properties of short-run models, and the microeconomics of macro models.</p>
<b>Mr. Jefferson</b>			<b>Mr. Dolbear</b>
<b>Economics 171a. Financial Markets</b>	<p>This course will cover a selection of topics at the frontier of theoretical work in finance. Topics will include the evaluation and selection of assets, the behavior of investors under risk; portfolio composition; theories of the equilibrium prices of assets, such as the Capital Asset Pricing Model and the Arbitrage Pricing Model; prices of options; the controversies over the levels of dividends and debt; and the efficient market hypothesis.</p>	<b>Economics 190bR. Advanced Topics in Economic Theory and Policy</b>	<p>This course is designed to build upon and extend the basic core of economic theory and policy developed in ECON 80 and 82. Topic to be announced.</p>
<b>Mr. Pulley</b>			<b>Mr. Feldman</b>
<b>Economics 172b. Money and Banking</b>	<p>The theory and practice of financial intermediation, with special reference to the behavior of commercial banks and other financial institutions. Emphasis is on analysis of the general economic role of intermediaries and the effect of risk on their operations. The techniques these firms use to cope with risk, such as loan pooling and diversification, are studied in detail. The effects of recent changes in government regulation (i.e., relaxation of Regulation Q, creation of money market funds, etc.) upon bank behavior are studied.</p>		
<b>Mr. Plessner</b>			

# English and American Literature

## Objective

The graduate program in English and American Literature is designed to offer training in the interpretation and evaluation of literary texts with some attention to related scholarly disciplines, particularly history and linguistics. It also offers candidates who have some ability in writing an opportunity to pursue this interest as a normal part of the graduate program.

## Admission

Candidates for admission should have a bachelor's degree, preferably with a major in English and American literature, and a reading knowledge of French, Italian, German, Greek, or Latin. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

## Faculty

Professor  
**Michael T. Gilmore**,  
 Chair:  
 Puritanism. Literature  
 of the American  
 Revolution. American  
 renaissance.

Professor  
**Philip Fisher**:  
 Nineteenth century  
 literature. Critical  
 theory.

Professor  
**Eugene Goodheart**,  
 Director of Graduate  
 Studies:  
 Criticism. 19th and  
 20th century  
 literature and thought.

Professor  
**Allen Grossman**:  
 Poetry and poetic  
 structures.  
 Seventeenth century  
 literature. Modern and  
 contemporary  
 literature.

Professor  
**Robert O. Poyer**:  
 Nineteenth century  
 literature. Social and  
 intellectual history.

Professor  
**John H. Smith**:  
 Shakespeare.  
 Renaissance drama.  
 Neo-Latin literature.

Professor  
**Susan Staves**:  
 Restoration and  
 eighteenth century.

Professor  
**Peter Swiggart**:  
 American literature.  
 Criticism theory.

Visiting Fannie Hurst  
 Professor  
**Jay Cantor**:  
 Fiction.

Visiting Fannie Hurst  
 Professor  
**Richard Howard**:  
 Poetry.

Associate Professor  
**Karen W. Klein**:  
 Medieval literature.  
 Women's studies.

Associate Professor  
**Alan Levitan**:  
 Shakespeare. Music  
 and drama.

Associate Professor  
**Richard J. Onorato**:  
 Modern literature.

Assistant Professor  
**John Burt**:  
 American literature.

Assistant Professor  
**Lennard Davis**:  
 Eighteenth century  
 and  
 critical theory.

Assistant Professor  
**William Flesch**:  
 Renaissance.

Assistant Professor  
**Geoffrey C.**  
**Harpham**  
 (on the Mellon  
 Foundation):  
 Contemporary fiction.

Assistant Professor  
**Anne Janowitz**:  
 Romantic and modern  
 poetry; film.

Assistant Professor  
**James B. Merod**:  
 Twentieth century  
 poetry.

Assistant Professor  
**Helena Michie**:  
 Nineteenth century  
 literature and feminist  
 criticism and theory.

Writer-in-Residence  
**Frank Bidart**:  
 Poetry

Writer-in-Residence  
**Geoffrey Wolff**:  
 Fiction.

## Degree Requirements

Following are the degree requirements for the Department of English and American Literature. Students should also consult the General Degree Requirements and Academic Regulations found in an earlier section of this catalog.

### Master of Arts

#### Program of Study.

Each student will take English 200a. In addition, a normal program will consist of five courses, at least three of which will be 200-level seminars. Students must also register for English 295b (Major Text Examination).

#### Residence Requirement.

The minimum residence requirement is one year, though students with inadequate preparation may require more.

#### Language Requirements.

A reading knowledge of a major foreign language (modern European, ancient Greek, Biblical Hebrew or Latin). The completion of the language requirements at another university does not exempt the student from the Brandeis requirement.

#### Qualifying Examination.

An oral examination, by committee of faculty members, will be given at the beginning of the spring term on one of several major texts, the texts to be announced at the end of the fall term. This examination will test a student's ability to read and understand a major literary work or a group of short works by the same author. Admission to the Ph.D. program in addition to qualification for the M.A. degree will depend upon the results of this examination, in addition to course evaluation.

### Doctor of Philosophy

#### Admission to the Ph.D. Program.

(1) Students who complete, with distinction, the M.A. requirements at Brandeis University are admitted to the Ph.D. program by the Department upon recommendation of the Committee on Graduate Studies.

(2) Students who enter with a master's degree or a full year of graduate work in English from another university are required to fulfill the qualifying examination requirement described above under the Master of Arts Program. Provided this requirement is fulfilled, such students may, at the Department's discretion, be admitted to the Ph.D. program after successful completion of a semester at Brandeis and upon recommendation by the Committee on Graduate Studies. At the time of admission up to a year's residence and course credit for work completed elsewhere may be granted.

#### Program of Study.

Second year students continue to take courses, usually two a semester. Students have an obligation to review their preparation in the field with their advisers and to ensure that they are acquiring both a comprehensive knowledge of the various historical periods and genres of English and American literature and a more profound knowledge of the particular period or field they propose to offer as a specialty. With the exception of English 200, no specific courses are required of all Brandeis Ph.D. candidates; each student's program will be designed in the light of the strengths and weaknesses of his or her previous preparation and in accord with his or her own interests.

A student who comes to Brandeis with a B.A. is required to take 12 courses for the Ph.D.; a student who comes with an M.A. is normally required to take 8 courses at Brandeis.

#### Dissertation Field Examination.

All candidates for the Ph.D. will be asked to pass an oral examination in the historical period or genre in which the candidate expects to write a dissertation. This examination is taken in the third year. The examination may be taken as many times as necessary without prejudice to a student's standing in the Ph.D. program.

#### Residence Requirement.

The minimum residence requirement is one year beyond the master's degree or two years beyond the bachelor's.

### Other Requirements

#### Language Requirement.

In addition to the language requirement that has been met for admission to the Ph.D. program, the student must (1) demonstrate a reading knowledge of a second major foreign language; or (2) demonstrate an advanced competence in the first foreign language and a knowledge of its literature; or (3) take a graduate course, ordinarily a seminar, in a field closely related to research on the dissertation. Approval of the graduate committee must be sought before such a course is taken; the students must demonstrate the relevance of the proposed course to the dissertation.

#### Training in Teaching.

Provided openings exist, students in their second and third year in the program can be expect to be awarded at least one teaching assistantship each year, provided their academic work is of high calibre.

#### Admission to Candidacy.

A student will be recommended by the Department for admission to candidacy for the Ph.D. degree after completing with distinction the program of study and satisfying all departmental requirements prior to the writing and defense of a dissertation. A student admitted to candidacy must have submitted a formal dissertation proposal, subject to approval by the student's dissertation director and by an additional member of the departmental faculty.

#### Dissertation and Defense.

Each student will submit a dissertation in a form approved by his or her dissertation director and by a committee appointed by the Director of Graduate Studies. The student will defend the dissertation at a final oral examination. The dissertation may be a monograph, a series of closely related essays, a bibliographical project or a textual project.

#### History and Structure of English.

The Department also offers an alternative program in the history and structure of the English language, with specialization in Old, Middle, or Early Modern English. For details, address the chairman of the Department.

## Courses of Instruction

English 122aR.  
**Old English**

An introduction to the language and literature of Anglo-Saxon. Readings will include selections from Bede, **The Chronicle**; charms, riddles, the major extant short poems, and the epic poem **Beowulf**.

Ms. Klein

English 122b.  
**The Medieval World: England from the Conquest to the Renaissance**

A cultural study of this period with particular attention to the idealized fantasies, centering on the figure of Arthur, of the aristocratic class; the yoking of literary energies to intense religiosity; and the emergence of a literature reflective of wider urban and social realities. Readings will be drawn from history, Romance, lyric, drama and the poetry of Chaucer.

Ms. Klein

English 126a.  
**American Realism and Naturalism 1865-1900** Not offered 1985-1986English 127a.  
**Joyce and Lawrence**

A study of the major work of the two great antithetic novelists of the modern period. Readings will include: **Dubliners, Portrait of the Artist, Ulysses, Sons and Lovers, The Rainbow and Women in Love**.

Mr. Goodheart

English 127b.  
**Contemporary and Avant-Garde in Fiction**

Against the background of the "modernism" of the earlier twentieth century, this course will consider the contemporary scene in fiction. The assimilation of earlier experimental techniques and attempts at continuing avant-gardism will be considered. American writers, writers in English from England and the several other English-speaking countries, and some writers in translation will be covered to show how central American writing has become to American readers and yet how international serious writing and reading has become in the wake of modernism.

Mr. Onorato

English 128a.  
**Ante-Modernism: Politics of an Ecstasy 1870-1914**

An attempt to identify those energies in Western culture which, between the Franco-Prussian War and the Great War, sought to articulate in all the arts — and in philosophy and science too — what was radically perceived as Unity of Being; such rhapsodic apprehensions of wholeness — euphoric, organic, oneiric — were to be drastically countered by what we now acknowledge as the necessities of Modernism: fragmentation, erasure, negativity, collage. (Principal figures: Nietzsche, Mallarme, Pater, Whitman and Wagner; but discussions will invoke work by Yeats and James, Materlinck and Chekhov; Monet, Rodin and Klimt; Freud, Bergson and Einstein; Isadora Duncan and Frank Lloyd Wright; Proust, Gide and Valery.)

Mr. Howard

English 128b.  
**The Modernist Revolution**

A course in the literary revolution that created what we know as "modern literature," with an emphasis on the works of Yeats, Eliot, Pound, Frost, Williams and Stevens. We will look at major statements about the nature of poetry by these poets, as well as their major poems.

Mr. Bidart

English 130a.  
**American Literature** Not offered 1985-1986English 130bR.  
**Cosmic Poetry: Vergil, Milton, Yeats** Not offered 1985-1986English 131b.  
**Feminist Theory** Not offered 1985-1986English 132bR.  
**Chaucer** Not offered 1985-1986English 133a.  
**Advanced Shakespeare** Not offered 1985-1986English 134a.  
**The Women of Letters in the Eighteenth Century** Not offered 1985-1986English 135a.  
**Wordsworth to Stevens: The Continuity of Romantic Poetry** Not offered 1984-1985English 135bR.  
**Romanticism**

Major poetic texts by Blake, Wordsworth, Coleridge, Keats, Shelley and Byron, with some attention to their prose, and to Dorothy Wordsworth's *Journals* and Mary Shelley's *Frankenstein*. Our purpose is both to define the common ground of the Romantics' poetic, political and philosophic goals, and to determine the singularity of each writer's achievement. Topics we will address include: Romantic genres, the "Romantic Woman," Romantic Medievalism and Orientalism, and the relationships between the "visionary" and the "visual."

Ms. Janowitz

English 136a.  
**Whitman and his Archive** Not offered 1985-1986English 137a.  
**Twentieth Century Poets** Not offered 1985-1986English 137bR.  
**Samuel Beckett** Not offered 1985-1986English 138b.  
**Poetry and Religion** Not offered 1985-1986

English 140a. <b>Vehemence and Wonder: Philosophical Components of Literature</b>	<input type="checkbox"/> Not offered 1985-1986	English 151b. <b>Contemporary Critical Theories: The Politics of Criticism</b>	A course in reading and writing analytic prose. We will begin by looking at Thoreau's <i>Walden</i> as a representational structure and as a strategy of rhetorical entanglements designed to challenge readers by disrupting their habits of dealing with texts. That will allow us to deal the ways strong writing "educes" its audience and promotes competing interpretations. Our overall concern is to understand how reading asserts influence and what critical writing can (and cannot) accomplish.
English 140b. <b>Wordsworth and Yeats</b>	A study of the careers, major poems, ideas and forms of these two poets. The work of art in its relation to experience and performance, sensation, and form, politics and personal history will be at the center of the intensive study of major poems.	Mr. Fisher	Mr. Merod
English 143aR. <b>Elizabethan and Jacobean Drama</b>	A study of the major dramatic works, excluding Shakespeare, from roughly the mid-sixteenth to the mid-seventeenth centuries.	Mr. Levitan	English 153b. <b>Milton</b>
English 143b. <b>English Drama before Shakespeare</b>	<input type="checkbox"/> Not offered 1985-1986		This course contemplates Milton primarily as the author of <i>Paradise Lost</i> . We will also read Milton's other major works <i>Lycidas</i> , <i>Paradise Regained</i> , <i>Samson Agonistes</i> as well as some of his shorter poems and some selections from his prose, in order to understand his stake, both political and poetic, in his own writing.
English 145bR. <b>Victorian Poetry and Poetics</b>	This course will look at the poetry, painting and melodrama of the Victorian period and at the poets, painters, models and actors who brought these genres to life. We will also be looking at marriages: marriages between poets, between painters and models, actors and directors, and at the larger issue of the "marriage" between 19th century poetry, painting and theatre. Some central figures in this course will be Tennyson, Arnold, The Brownings, The Ruskins, Christina and Dante Gabriel Rossetti, and actresses Fanny Kemble and Ellen Terry.	Ms. Michie	Mr. Flesch
English 146b. <b>Mark Twain and His America</b>	<input type="checkbox"/> Not offered 1985-1986		English 155b. <b>Lawrence and the Moral Tradition</b>
English 147a. <b>Faulkner, Fitzgerald and Bellow</b>	<input type="checkbox"/> Not offered 1985-1986		<input type="checkbox"/> Not offered 1985-1986
English 147b. <b>Modern British and American Drama</b>	<input type="checkbox"/> Not offered 1985-1986		English 157aR. <b>The Post-Modern Generation</b>
English 148bR. <b>Classical Background of English Literature: Epic and Pastoral Poetry</b>	Selected Greek and Latin works in translation and comparable English poems. (Homer, Theocritus, Vergil, Spenser, Milton, Pope, etc.)	Mr. Smith	English 158a. <b>American Poetry</b>
			<input type="checkbox"/> Not offered 1984-1985
			English 163a. <b>Renaissance Poetry</b>
			In this course we will be concerned primarily with the kind of lyric first written by Wyatt, and evolved and extended by Sidney, Spenser and Shakespeare (particularly the sonnets); and with its sometimes surprising elaborations in the work of seventeenth century poets, mainly Donne, Herbert, Milton and Marvell.
			Mr. Flesch
			English 164bR. <b>Restoration Drama</b>
			<input type="checkbox"/> Not offered 1985-1986
			English 165a. <b>Social Novel in the Nineteenth Century: Self and Society in the English Novel</b>
			<input type="checkbox"/> Not offered 1985-1986
			English 167a. <b>Self-Critical Fictions</b>
			In recent years, criticism has grown both more independent of literary texts and more profoundly conscious of its own literary nature. We will explore this developing awareness in the work of several contemporary novelists: E.L. Doctorow, John Barth, Jerry Kosinski, Robert Persig, Donald Barthelme.
			Mr. Harpham
			English 167bR. <b>Contemporary Poetry: Poets and Poetry: Theory and Practice</b>
			<input type="checkbox"/> Not offered 1985-1986

English 174b. <b>Eighteenth Century Novel</b>	Early developments in English fiction with some attention to theories of narrative and problems in the practical criticism of the novel. Emphasis on Defoe, Richardson, Fielding, Sterne and Austen.	Mr. Davis	English 187a. <b>The Modern Novel I</b>	<input type="checkbox"/> Not offered 1985-1986
English 175b. <b>City and Psyche in Victorian Literature</b>	An examination of the shock of urban living on early inhabitants of industrialized society. The course will cover rural and small-town experience, life in London and, finally, sea adventures and English contact with the "third world". Writers include Mrs. Gaskell, Dickens, Gissing, Hardy, Trollope, Eliot, Conrad, Stevenson, Kipling.		English 187b. <b>The Loss of the Common World: A Study of Conrad, Wittgenstein and Freud</b>	The course will develop themes from the political, intellectual and literary history of the first twenty years of the century. We will examine first the role of imperialism in the political life of Europe and its effect on the nation state. Then, in Conrad's work we will look at irony as a response to imperialism, and its effect on morality and the personality. We will study Wittgenstein's response to irony, his effort to stabilize meaning, and to secure ethics by making them "what cannot be talked about." And we will examine the Freudian discovery of its own "dark continent," his attempt to secure the ego, his revisioning of morality and how he has changed our way of reading ourselves, our telling of our life stories in novels and case histories.
English 176a. <b>Hawthorne and Melville</b>	<input type="checkbox"/> Not offered 1985-1986			Mr. Cantor
English 176b. <b>Hawthorne, Melville and Poe</b>	Readings will include <i>Moby Dick</i> , <i>The Narrative of Arthur Gordon Pym</i> , <i>The Scarlet Letter</i> and <i>The Marble Faun</i> , as well as short novels by all three authors.	Ms. Swiggart		
English 177a. <b>American Gothic and American Romance</b>	<input type="checkbox"/> Not offered 1985-1986			
English 177bR. <b>Contemporary Women Writers</b>	This course studies poetry and prose by women from the 1940's to the present day in terms of socio-cultural content, literary traditions, and feminist criticism. Among the authors read are Lessing, Olsen, Walker, Morrison, Cordiner, Plath, Bishop, Olds, Levertov, Hawley, Broumas. Significant writers from earlier in this century may also be included.	Ms. Klein		
English 180a. <b>The Modern American Short Story</b>	Although this course will have occasional reference to Kafka, Chekov, Frank O'Connor and Pinter, its focus is the American story, most particularly in its 20th century evolutions. We will read Hawthorne, Melville and James to prepare for our study of Fitzgerald, Hemingway, Faulkner, Anderson, Flannery O'Connor, Cheever, Roth, Malamud, Gass, Barth, Elkin, Beattie, Carver, Jayne Ann Phillips, Hannah, Yates, Updike and others. The development of a genre will be investigated by close attention to matters of craft: narrative design, point of view, voice, exclusion, time and transition, inference, syntax. Two critical papers will be required together with a final examination.	Mr. Wolff	English 231a. <b>Fictions of the Self</b>	Contemporary theories in literary study as well as in psychology, philosophy and sociology tend to view the unified or coherent self as a fiction that conceals the discontinuous impulses, the fragmented desire of the natural "self." Recalling early radical versions of Freud (Marcuse, Brown, D.H. Lawrence), recent writers, Lacan, Deleuze, and Bersani among others "expose" the repressive structurings of self demanded by civilization. Post-structuralist theories (Barthes, Derrida, deMan) stress the linguistic character of self invention and its vulnerability. The theatrical metaphor controls the presentation of self in the work of the sociologist Erving Goffman. According to Goffman, the self is no more than the roles it performs, the sum total of its "theatrical" effects. All these theories put the very idea of a self into question. What of the self is salvaged from these demystifications and deconstructions? We will consider the presentation of character in selected works of modern fiction together with theoretical statement about the self.
English 185aR. <b>Dickens and Dostoevsky</b>	<input type="checkbox"/> Not offered 1985-1986		English 233b. <b>Shakespeare</b>	Mr. Goodheart
				Mr. Smith

**English 236b.  
Twain and James:  
American Culture  
from the Civil War  
to World War I**

The principal novels and stories as well as the careers of Twain and James will be studied as elements of a cultural, historical, economic and literary transformation of American society. Topics will include: the rise of large scale business enterprise, professionalization, the mass media and the culture of celebrity, the insertion of American culture into a European system, the construction of a coast-to-coast "Union," the marketing products and identities, pragmatism and the rise of American Philosophy. Required reading will be extensive and varied. Those wishing to take the course should prepare by reading: Daniel Boorstein, *The Americans Vol III, The Democratic Experience*, and Alan Trachtenberg, *The Incorporation of America*. American painting, architecture, urban development, philosophy and cultural theory will play some part in the course.

Mr. Fisher

**English 240a.  
Five American  
Poets**

Dickinson, Stevens, Ashbery, Rich and a fifth to be chosen by the class. These poets will be studied in detail and attention will be paid to several issues in modern poetics, including metaphor theory.

Mr. Swiggart

**English 245b.  
Victorian Literature**

The fictional world and the world of actuality in 19th century England.

Mr. Preyer

**English 295b.  
Studies in a Major  
Text**

Required of all first year students.

Ms. Staves

## French

See Joint Program of Literary Studies.

## German

See Joint Program of Literary Studies.

## History

See Comparative History.

<b>English 352-369a and b. Directed Research</b>	352a and b. Mr. Goodheart 354a and b. Mr. Preyer 355a and b. Mr. Smith 356a and b. Mr. Swiggart 357a and b. Mr. Grossman 358a and b. Mr. Gilmore 359a and b. Ms. Klein	360a and b. Mr. Levitan 361a and b. Mr. Onorato 362a and b. Ms. Staves 365a and b. Mr. Fisher 367b. Mr. Wolff 368a and b. Mr. Burt 369a and b. Mr. Merod
<b>English 402-417. Dissertation Research</b>	402. Mr. Goodheart 404. Mr. Preyer 405. Mr. Smith 406. Mr. Swiggart 407. Mr. Grossman 408. Mr. Gilmore 409. Ms. Klein	410. Mr. Levitan 411. Mr. Onorato 412. Mr. Staves 415. Mr. Fisher 416. Mr. Merod 417. Mr. Burt

## History of American Civilization

### Objectives

The graduate program in the History of American Civilization, leading to the degree of Doctor of Philosophy in History, has been designed primarily to educate professional scholars and teachers of American history. The curriculum emphasizes both a comprehensive understanding of American history and the mastery of historical research and writing. For a comparative view of the American experience, students will undertake selective studies in modern European, Asian, Latin American or African history. A related field of study will be defined, according to individual background and interest, in one of the following ways:

1. Training in one of the disciplines of the social sciences or humanities — politics, international relations, or literature, for example — to provide perspectives and methods that can illuminate historical problems.
2. A thematic field in American history, involving a distinctive subject matter and discipline; for example, American social history, American legal and constitutional history, American intellectual history, or American art and architecture.
3. A topic in comparative history, involving a distinctive subject matter and discipline: 20th century British and American literature, for example, or 19th century emigration/immigration, or 18th century American and European political and social philosophy.

A small, select student body works closely with the faculty in independent reading and research courses. From the beginning, individual programs are developed to prepare stu-

dents for their qualifying examinations and to guide them toward their dissertation research. Normally, the first year's work is concentrated in American history, including substantial experience in directed research and a critical approach to problems of historiography. Second-year students, while pursuing further directed research, chiefly are encouraged to choose courses to complete their preparation in the examination fields. Studies in related fields are arranged individually with appropriate members of the University's graduate faculty, either through standard courses or directed readings. For selected students with appropriate qualifications, there are opportunities for advanced study and research with distinguished scholars at neighboring universities in such fields as legal history and business history. Applicants should note with care the four parts of the examination, specified under **Degree Requirements**, in which all students are expected to demonstrate proficiency.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. An undergraduate major in history is the preferred preparation for admission, and the student's undergraduate curriculum should include some fundamental courses in American history and related fields in the social sciences or humanities. Students with the M.A. in history, or a professional degree in law or other related fields, are especially invited to apply. Students interested in Crown Fellowships or in the special arrangements for study in professional fields at neighboring universities, noted above, should submit applications by February 15.

### Faculty

Executive Committee and Staff

Professor **Donald Worster**, Chair: Environmental history. Frontier and West. Rural history.

Professor **John P. Demos**: Family and community. Colonial America.

Professor **David H. Fischer**: Social and political structure. Early Republic.

Professor **Morton Keller**: Legal and political institutions. Modern America.

Associate Professor **Gerald S. Bernstein**: American art and architecture.

Associate Professor **Stephen Whitfield**: Modern America. Cultural history.

Assistant Professor **James T. Kloppenberg**: Modern intellectual history.

## Degree Requirements

### Master of Arts

No one will be accepted in the program who is not a doctoral candidate. Applications from persons seeking a terminal M.A. degree are not welcome. However, the M.A. degree in History may be awarded to those who (1) have successfully completed one full year of residence at Brandeis University (eight half-courses), including two 200-level research courses, and (2) have passed the foreign language requirement.

### Doctor of Philosophy

#### Program of Study.

Doctoral candidates must complete two years in residence at Brandeis, and a minimum of sixteen half-courses. Programs of study and concentration will be formulated for each student, subject to the approval of the Executive Committee. Students will be required to maintain an average of B- or better in order to continue in the program. Continuance of fellowship support requires an average of A- or better. Incoming students normally will be expected to take one full course of Directed Research in American History in their first year of residence. The Committee may, at its discretion, grant a student transfer credit of up to one year toward the Ph.D. residence requirement for relevant graduate or professional work done elsewhere. Application for such credit shall be considered only after a student has completed one semester's residence in a full-time program. The second 200-level Directed Research course may be waived by the committee on the basis of a master's thesis or comparable research project at the graduate or professional level done elsewhere.

#### Language Requirement.

A high level of reading proficiency in one foreign language is required of all students. Students are expected to pass the language examination during the first year of residence. A student who has not passed the foreign language examination by the end of the first year is not eligible for financial aid from the University for the second year. The completion of language requirements at another university does not exempt the candidate from the Brandeis requirement.

#### Quantitative Methods.

All students in the program are urged, but not required, to attend the summer training in quantitative methods at the Newberry Library, Chicago, Illinois. In the past years, limited funds have been made available to defray expenses of students who choose to participate in the program.

#### Qualifying Examination.

Each doctoral candidate must pass at the doctoral level a qualifying examination in the following four fields: (1) general American history, one examiner will be in early American history and the other in modern American history; (2) a period of specialization in American history; (3) an area of comparative modern European, Asian, Latin American or African history; (4) a related field of study, involving one of the disciplines in the social sciences or the humanities. (Note the three alternative approaches for the fourth field specified under Objectives.) The period of specialization will

normally be selected from the following: 1607-1763, 1763-1815, 1815-1877, 1877-1914, 1914-present. The special period may be redefined on request, for good academic reasons. All proposed fields must be submitted in writing and approved by the Executive Committee. Students entering the program without previous graduate training in American history are expected to take the Qualifying Examination no later than the end of their fifth semester of residence and must pass the examination by the end of the sixth semester. Students who have earned an M.A. in history elsewhere, or who have one year of transfer credit for work taken elsewhere, are expected to take and pass the Qualifying Examination by the end of their second year in the program.

Unless the student elects a single three-hour oral examination on all four fields, the Qualifying Examinations will be taken separately in each of the fields, with the general American field coming at the end. For each of the fields (2), (3), and (4), as above, the student will choose one appropriate professor with the approval of the chairman of the program. That professor, in consultation with the student, will define the requirements, course of preparation, and mode of examination (written and/or oral) for the field.

For the general American field, the Chairman will appoint two members of the Executive Committee as examiners. The student may choose a one-hour oral examination or a three-hour written examination followed, if the examiners so require, by an oral examination. In either case, the two professors in consultation with the student will define in advance the major themes or problems on which the examination will be based. So far as possible, fields (3) and (4), as above, should be selected with a view to broadening and deepening the student's understanding of his or her American history fields, and providing valuable background for the dissertation work.

With the consent of the Chairman and the professor concerned, qualified students in appropriate cases may be examined in fields (3) or (4), as above, by a faculty member at another university. Moreover, with the consent of the Executive Committee, examinations in fields (3) or (4), as above, may be waived for students with the M.A., J.D., or other advanced degrees that represent a level or kind of training and achievement fully equivalent to those required in the Brandeis examinations for those fields.

#### Admission to Candidacy.

A student may be admitted to candidacy for the Ph.D. degree upon satisfactory completion of the following: course and residence requirements, demonstration of a high level of proficiency in one foreign language, the qualifying examinations, and when the prospectus for a dissertation is approved by the Executive Committee.

#### Dissertation and Defense.

When the dissertation is accepted by the Committee, a final oral examination will be scheduled at which the candidate must successfully defend his or her dissertation before the Committee and other members of the faculty who may participate. After a candidate has successfully defended the dissertation, he or she will give a public lecture.

## Courses of Instruction

History 190a.  Not offered 1985-1986.  
**Historiography**

History 200a. Comparative examination of major historical issues in Europe from the eighteenth through the twentieth centuries.  
**Colloquium in European Comparative History Since the 18th Century**  
 Mr. Schuker

History 201bR. An introduction to the major issues and methods in the social history of Europe in the early modern and modern periods.  
**Colloquium in Early Modern Comparative History**  
 Mr. Cohn

History 202b.  Not offered 1985-1986  
**Seminar in Comparative History: Town and Country**

History 203b.  Not offered 1985-1986.  
**Seminar in Comparative History: Death in History**

History 201aA-211aA. Students will normally elect one of the following in the fall term of the first and the second years. Each is designed to provide experience in designing, researching and writing a substantial essay of a monographic character, based on extensive use of sources. This is the equivalent of a full course and extends the due date for the final draft of the paper to March 1, to permit sufficient time for a major project. Specific research topics are selected by the student in consultation with the professor.  
**Directed Research in American History**

201aA.  Mr. Bernstein  
**Topics in American Art and Architecture**

203aA.  Mr. Demos  
**Topics in American Colonial History**

204aA.  Mr. Fischer  
**Topics in Social History, with Emphasis on the Early Republic**

205aA.  Mr. Keller  
**Topics in Modern America**

209aA.  Mr. Kloppenberg  
**Topics in Modern Intellectual History**

210aA.  Mr. Worster  
**Topics in Environmental History**

211aA.  Mr. Whitfield  
**Topics in Modern American Cultural History**

History 301-311. The following are available in either semester:  
**Readings in the History of American Civilization**  
 301a or b. Mr. Bernstein  
 303a or b. Mr. Demos  
 304a or b. Mr. Fischer  
 305a or b. Mr. Keller  
 309a or b. Mr. Kloppenberg  
 310a and b. Mr. Worster  
 311a and b. Mr. Whitfield

The following courses are offered on a regular basis to groups of students who wish to use them in order to prepare for their general examinations.

History 313-321.   
**Readings in the History of American Civilization**

313a or b.  Mr. Demos  
**Colonial History, 1607-1750**

314a or b.  Mr. Fischer  
**American Social History, 1750-1870**

315a or b.  Mr. Keller  
**Political History, 1870-present**

319a or b.  Mr. Kloppenberg  
**American Intellectual History, 1870-present**

320a or b.  Mr. Worster  
**Environment and History**

321a or b.  Mr. Whitfield  
**Modern American Cultural History**

History 401-411. <b>Dissertation Research</b>	401. Mr. Bernstein 403. Mr. Demos 404. Mr. Fischer 405. Mr. Keller 407. Mr. Meyers 408. Mr. Keyssar 409. Mr. Kloppenberg 410. Mr. Worster 411. Mr. Whitfield
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For courses available to History of American Civilization students in other historical areas, see the listings by department and programs in the Graduate School and College catalogs, especially under Comparative History.

In addition, the following courses may be taken as equivalent to History of American Civilization seminars:

History 150a. <b>Colonial America: People, Culture and Society</b>	Mr. Demos
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History 151a. <b>Revolution and Constitution: Founding the American Republic</b>	<input type="checkbox"/> Not offered 1985-1986
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History 154bR. <b>The History of Modern America</b>	Mr. Ueda
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History 156a. <b>American Social History, 1750-1860</b>	<input type="checkbox"/> Not offered 1985-1985
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History 156b. <b>American Society: An Analytical History, Civil War to the Present</b>	<input type="checkbox"/> Not offered 1985-1986
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History 158a. <b>Working Class History in the United States</b>	<input type="checkbox"/> Not offered 1985-1986
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History 159b. <b>Family and Society in American History</b>	Mr. Demos
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History 160a. <b>Adams and America</b>	<input type="checkbox"/> Not offered 1985-1986
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History 161a. <b>The American Political Tradition: Origins of the Civil War</b>	<input type="checkbox"/> Not offered 1985-1986
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History 161b. <b>The American Polity</b>	Mr. Keller
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History 162aR. <b>Topics in Modern Intellectual History: From Liberal Democracy to Social Democracy</b>	Mr. Kloppenberg
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History 162b. <b>The American Political Tradition Since the Civil War</b>	<input type="checkbox"/> Not offered 1985-1986
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History 163aR. <b>American Foreign Relations in the Twentieth Century</b>	Mr. Schuker
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History 167b. <b>Topics in American Legal History</b>	Mr. Keller
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History 168a. <b>American Politics and Ideas, 1890-1930</b>	<input type="checkbox"/> Not offered 1985-1986
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History 169a. <b>Thought and Culture in Modern America</b>	<input type="checkbox"/> Not offered 1985-1986
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History 191a. <b>History and Psychology</b>	Mr. Demos
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American Studies 101a. <b>Ecological History of North America</b>	Mr. Worster
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American Studies 133bR. <b>The American West</b>	Mr. Worster
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American Studies 185bR. <b>American Political and Social Thought since World War II</b>	Mr. Whitfield
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# Joint Program of Literary Studies

Comparative Literature, French, German, Russian and Spanish

## Objectives

The joint program of literary studies accepts students desirous of obtaining an M.A. and/or Ph.D. degree in one of the areas listed above. Interdisciplinary in design, the program aims to train literary scholars and teachers whose professional capabilities will be broader than their individual specialties. Students will have the opportunity to study the theory of literature, history and theory of literary criticism, and scholarly methodology in addition to the specific literatures in which the degree will be earned. A small and carefully selected student body will work closely with the faculty of the program and with one another in a core curriculum before specializing. Students are encouraged to plan an individual program of studies within their field of interest in consultation with their adviser(s). Although the program encourages individual initiative, with the advice and consent of adviser(s), it should be stressed that all students, whatever their areas, must master the basic literature, primary and secondary, in their field. The General Examinations will assume both breadth and depth of such knowledge. (Reading lists for each area are available.)

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program. Applications must be received no later than March 1. Please be sure to mark clearly the **area** of your choice (Comparative Literature, French, German, Russian or Spanish) on the application form. Each applicant must submit one or more college-level essays on a literary subject (one of which should be written in English) as a sample of work.

## Faculty

Committee:  
Associate Professor  
**Robert Szulkin**,  
Chair  
(Russian)

Professor  
**Edward Engelberg**  
(Comparative  
Literature)

Professor  
**Denah Lida**  
(Spanish)

Professor  
**Murray Sachs**  
(French)

Professor  
**Harry Zohn**  
(German)

In addition, all faculty members of the Departments of Germanic and Slavic Languages and Romance and Comparative Literature participate in this program.

## Degree Requirements

### Master of Arts

Students who have completed two years of full-time study in residence may be awarded the M.A. degree. Such students must be in good standing (no incompletes). In addition, such students must have passed the language requirement, either by certification and/or examination, as follows: single area candidates: **one foreign language other than the major language**. Finally, such students must have passed satisfactorily the Qualifying Examinations.

### Doctor of Philosophy

#### Program of Study.

Individual programs of study will be arranged between students and their advisers. The core curriculum consists of several elements: all students in the program are obliged to enroll in **Literary Studies 201 (The History and Theory of Criticism)**; all students will be held responsible for certain works on literary theory, literary history and aesthetics (not studied in the criticism seminars) at the time of General Examination.

Although the program is designed to permit students to develop their studies coincident with their interests and talents, and in consultation with their adviser(s), full-time students are expected to enroll in at least **three** literary studies seminars each year during the first two years of residence. In addition to **Literary Studies 201**, first-year students are expected to augment this schedule with **at least** two additional seminars from the literary studies offering.

Residence Requirements.	The minimum residence requirement is two years of full-time study beyond the bachelor's degree. Additional course work during the third year is generally recommended.	Dissertation and Defense.	The completed dissertation must be read and found acceptable by its director and two other readers before the candidate is eligible for the Final Oral Examination. The Final Oral Examination will be conducted by a committee of not less than four, one of whom must come from outside the candidate's area.
Language Requirement.	Students will be asked to demonstrate a reading competence in <b>at least</b> two foreign languages to be determined in consultation with their advisers. In certain areas of specialization, additional languages (e.g., Latin) may become necessary research tools. (Comparative literature students should consult the special statement of language requirements below.) Students must be certified in at least one language by the end of the first year in residence.	Teaching.	All students in the program are expected to do some supervised teaching, either as a teaching assistant or by means of other arrangements. In some areas, where teaching assistantships may at times be unavailable, students will be expected to fulfill some teaching opportunities (occasional class lectures, for example) without remuneration.
Qualifying Examinations.	Qualifying examinations must be taken at the start of a student's second full year in residence, with the purpose of determining that the student is qualified to study literature productively at the graduate level. Only students who have a complete and satisfactory record for their first year will be permitted to take the Qualifying Examinations. <b>No postponement of these examinations is allowed.</b> The examinations are both written and oral, and will be scheduled each year for the third or fourth week in September. The examinations are prepared and conducted by a three-member faculty committee chosen at the end of the first year of study by the candidate in consultation with the candidate's faculty adviser. At the outcome of the examination, the candidate receives a detailed written evaluation from the three-member committee, based on the written and oral performances and on the entire record of the candidate's first year in residence.	For Candidates in Comparative Literature.	<p>1. Any student in the program who declares candidacy in comparative literature should decide, as soon as possible, on a <b>major</b> and <b>minor</b> literature. The <b>major</b> literature must be one of those offered by either the Department of Germanic and Slavic Languages or Romance and Comparative Literature (but not Italian). The <b>minor</b> literature may be Italian, English, American or any other literature offered by the University. Exact "proportions" cannot be stated in advance and will be worked out in consultation between students and adviser(s).</p> <p>2. Candidates in comparative literature are expected to take three language examinations follows:</p> <p>a. The major language, which should be near level of mastery (reading, writing and speaking) on acceptance to the program. Students may simply be "certified" for this language if their level of competence is obvious.</p> <p>b. The second foreign language should be mastered as a reading language with a fluency that will permit easy access to all primary and secondary literature in the specified area.</p> <p>c. The third foreign language should be a reading tool for primary and especially secondary materials.</p> <p>It is quite possible that for certain areas of specialization — Medieval, Renaissance, etc. — additional languages will become necessary (e.g., Latin, Catalan, Old French).</p>
General Examinations.	Students may take the General Examinations, which demonstrate full competency in their chosen discipline, whenever they and their advisers feel they can appropriately do so. However, all students are expected to have completed the General Examinations no later than the fall semester of their fourth year in residence. Examinations will be offered twice each academic year, in October and May, and will consist of three written examinations and an oral examination. Details about the contents and procedures are available on request.		
Admission to Candidacy.	Candidates will be recommended for admission to doctoral candidacy when the residence and language requirements have been met, the General Examinations have been successfully passed, and a prospectus of the candidate's proposed dissertation topic has been approved by a committee of the area concerned.		

**Courses of Instruction****Literary Studies 201a.****History and Theory  
of Criticism: The  
Development of  
Modern Critical  
Theories**

Mr. Gendzier

**Literary Studies 202b.**  Not offered 1985-1986  
**Fiction: Theory and  
Practice****Literary Studies 203a.**  Not offered 1985-1986  
**Romantic  
Phenomena****Literary Studies 204b.**  Not offered 1985-1986  
**Theory and Practice  
of Literary  
Translation****Literary Studies  
205a.**  Not offered 1985-1986  
**Crosscurrents in the  
French and English  
Enlightenments****Literary Studies 206b.**  Not offered 1985-1986  
**The Comic in  
Literature: Theory  
and Practice****Literary Studies 207a.**  Not offered 1985-1986  
**Marxist Criticism:  
Literature and  
Society in Early  
Modern Europe****Literary Studies 208b.**  Not offered 1985-1986  
**Cervantes in his  
European Context:  
Heritage and  
Lineage****Literary Studies 209a.**  
**Modern Phenomena:  
European  
Symbolism**

Mr. Block

**Literary Studies 210b.**  
**Genesis and  
Development of a  
Myth: Don Juan**

Ms. Lida

**Literary Studies 211a.**  Not offered 1985-1986  
**The Tragic in  
Literature****Literary Studies 212b.**  Not offered 1985-1986  
**Techniques of  
Stylistic Analysis****Literary Studies 213b.**  Not offered 1985-1986  
**Modes of the  
Grotesque in Art  
and Literature****Literary Studies 214a.**  Not offered 1985-1986  
**Biography-  
Autobiography and  
Related Genres****Literary Studies  
301-305.**  
**Readings in Area  
Studies: Tutorials****301a and b.**  
**Comparative  
Literature. Readings  
in Comparative  
Texts**

Mr. Engelberg and Staff

**302a and b.**  
**French. Readings in  
French Texts**

Mr. Sachs and Staff

**303a and b.**  
**German. Readings in  
German Texts**

Mr. Zohn and Staff

**304a and b.**  
**Russian. Readings in  
Russian Texts**

Mr. Szulkin and Staff

**305a and b.**  
**Spanish. Readings in  
Spanish Texts**

Ms. Lida and Staff

**Literary Studies  
351-355.**  
**Directed Research**  
Open to advanced graduate students with the consent of the instructor  
and the chairman of the Literary Studies Program.**351a and b.**  
**Comparative  
Literature**

Mr. Engelberg and Staff

**352a and b.**  
**French**

Mr. Sachs and Staff

**353a and b.**  
**German**

Mr. Zohn and Staff

**354a and b.**  
**Russian**

Mr. Szulkin and Staff

**355a and b.**  
**Spanish**

Ms. Lida and Staff

**Literary Studies 400.**  
**Dissertation  
Research**

Staff

Following is a list of selected courses in each of the areas that constitute the Joint Program of Literary Studies, which may be of special interest to graduate students. For a full list of all courses available consult the undergraduate catalog under Departments of Germanic-Slavic Languages and Romance and Comparative Literature.

### Comparative Literature

**Comparative Literature 103b.  
Madness and Folly in Renaissance Literature** A study of the theme of madness and folly as exemplified by the major writers of the Renaissance, including Erasmus, Rabelais, Montaigne, Boccaccio, Ariosto, Shakespeare, Jonson and Cervantes.

Mr. Lansing

**Comparative Literature 104a.  
Power and Imagination in the Seventeenth Century** An examination of writing at the threshold of the modern era, when traditional relations of power were disrupted by scientific discovery, technological advance and social change. We will focus on the scientific imagination, the challenge to political and religious authority and transformations in sexual politics. Readings in Descartes, Bacon, de Bergerac, Aphra Behn, Molière, Racine, Marlowe, Jonson, Galileo, Pascal, Fontenelle.

Ms. Harth

**Comparative Literature 106a.  
The Age of Contraries: European Romanticism** Literature and parallels in painting and music. The Romantic tendency to posit problems and solutions in terms of contraries: art and nature, love and death, energy and exhaustion, devotion and revolt, form and formlessness, ecstasy and despair, sentiment and irony. English Romantics, Goethe, Baudelaire, Dostoevsky, Nietzsche, Mann, Blake, Friedrich, Constable, Turner, Géricault, Schubert, Berlioz, Gounod, Wagner.

Mr. Engelberg

**Comparative Literature 107b.  
Shock of the New: European Modernism** A study of principal forms and styles in modern European literature, with emphasis on conceptual formulations of the **avant-garde** in the early twentieth century. Interplay between the two world wars. Focus on **monologue intérieur**, the poetry of Apollinaire, Expressionist poetry and drama. Readings in Joyce (selections), Trakl, Pound, Svevo.

Mr. Block

**Comparative Literature 110bR.  
The Development of a Genre: Drama** Survey of Western theater from Classical times to the twentieth century. Major trends in tragedy and comedy pursued and several themes followed in versions from earliest to modern interpretations. Literary aspects stressed, with some attention to factors influencing presentation. Works include: **Hippolytus, The Brothers Karamazov, Sheepwell, The Misanthrope, Phèdre, The Tempest, Maid of Orleans, Wild Duck, Government Inspector, St. Joan, Verma.**

Ms. Lida

**Comparative Literature 121b.  
Dancing the Orange: Studies in Poetic Resonance**

Not offered 1985-1986

**Comparative Literature 125a.  
Women in Literature**

Not offered 1985-1986

**Comparative Literature 127b.  
The Rise of the Modern Short Story**

Not offered 1985-1986

**Comparative Literature 137aR.  
Dada and Surrealist Practice**

The Dadaists first assaulted bourgeois society in Zurich before World War I. Their provocative and humorous diatribes were employed by Dada-Surrealists in Berlin, New York and Paris. We shall examine their manifestos, literature, art and films which display a rebellious spirit extolling the liberated subconscious, the values of spontaneity and authenticity, the joys of love and freedom.

Mr. Gendzier

**Comparative Literature 141b.  
The Picaresque Novel**

Not offered 1985-1986

**Comparative Literature 144b.  
The Outsider as Artist and Lover**

Not offered 1985-1986

**Comparative Literature 145a.  
In Praise of Folly**

Not offered 1985-1986

**Comparative Literature 152a.  
Critical Approaches to Literature**

Not offered 1985-1986

**Comparative Literature 170bR.  
Tragedy and Modernism: Buchner to Beckett**

Not offered 1985-1986

**Comparative Literature 174a.  
Sex, Class and Literature in Europe, 1830-1914**

Social change and literary production in Europe during a period of political and industrial revolution. Issues of sexual and social relations, women and class, as they are treated in capitalist and socialist ideologies respectively. Authors to be studied include Brontë, Flaubert, Engels, Gissing, Freud, Shaw, Gorky, Stein.

Ms. Harth

Comparative Literature 175b. <b>The psychological Novel</b>	<input type="checkbox"/> Not offered 1985-1986	French 117a. <b>French Classicism: The Ancien Régime</b>	Relations between power and culture in the closing centuries of the ancien régime. Louis XIV's Versailles: its spectacular, visual and literary art; development of the old order in the eighteenth century, as seen in painting and literature. Visual material and trips to local museums. Readings include art criticism, historical analysis, works by Molière, Racine, LaFayette, Voltaire, Diderot, Beaumarchais.
Comparative Literature 187b. <b>Fictive Knowledge in the Twentieth Century</b>	<input type="checkbox"/> Not offered 1985-1986		Ms. Harth
Comparative Literature 193a. <b>Native American Literature</b>	<input type="checkbox"/> Not offered 1985-1986	French 118b. <b>The French Enlightenment</b>	<input type="checkbox"/> Not offered 1985-1986
Comparative Literature 199b. <b>The Roots of Literature</b>	An inquiry into the origins of literature as revealed by ancient and modern myths and texts.  Mr. Yglesias	French 119a. <b>French Romanticism</b>	<input type="checkbox"/> Not offered 1985-1986
<b>French</b>		French 123b. <b>The Feminine Tradition in French Literature</b>	<input type="checkbox"/> Not offered 1985-1986
French 109b. <b>Contemporary French Civilization</b>	This course is designed for those who seek to acquire a working knowledge of the social, cultural, economic and political context of contemporary France, while seeking, at the same time, to develop fluency in French. It is also of interest to students contemplating study abroad, as well as careers in international business, government and law. The course centers around thematic dossiers composed of recent essays and press articles, slides, films and recordings.  Ms. Marx-Scouras	French 138b. <b>Nineteenth Century French Fiction</b>	By focussing on the great landmark achievements in the novel, (by Stendahl, Balzac, Flaubert and Zola), and the finest short stories (by Merimee, Balzac, Flaubert and Maupassant), this course will seek to discover why fiction grew to be the dominant literary form of the nineteenth century in France and why realism was the aesthetic ideal of the age. All reading in French. Conducted in French.  Mr. Sachs
French 110a. <b>Introduction to French Literature</b>	A survey of representative works on the theme of love by the following authors: Béroul-Thomas, Montaigne, Molière, Racine, Diderot, Baudelaire, Flaubert and Camus. This course is designed to prepare students to read and interpret a variety of literary genres. Readings, lectures, discussions and writing will be done in French.  Mr. Gendzier	French 140b. <b>Twentieth Century French Drama</b>	<input type="checkbox"/> Not offered 1985-1986
French 112a. <b>The French Middle Ages</b>	This course will explore the representative examples of medieval epic, courtly romance, allegory, lyric poetry and theater. Emphasis on modes and structures of medieval imagination, mirroring social, spiritual and aesthetic values. Texts in modern French.  Ms. Campbell	French 142b. <b>The Powers of Language: French Writing Outside of France</b>	Fiction, poetry, essays written in French by non-French authors. We shall read representative works from Canada, the Caribbean (Haiti, Martinique, Guadeloupe), North Africa (Morocco, Algeria), and Africa (Senegal). Themes include linguistic power, colonialism and alienation, nationalism, negritude, writing in the feminine, conflict of generations, crisis of contemporary civilization. Authors include: Fanon, Memmi, Schwarzbart, Césaire, Yacine, Chraïbi, Djebar, Kane, Ousmane. Films and guest lecturers.  Ms. Marx-Scouras
French 116b. <b>The French Renaissance</b>	<input type="checkbox"/> Not offered 1985-1986	French 149a. <b>Twentieth Century French Fiction</b>	A study of the theory and practice of French novelists in the twentieth century. Authors to be considered include: Gide, Sartre, Céline, Beckett, Robbe-Grillet, Gracq, Tournier, Duras. Particular attention will be paid to the notion of authorial presence in the novel.  Ms. Hale

French 150b. <b>French Literature and Painting</b>	We shall explore the interrelations between French art and literature by studying selected texts (in English translation) and corresponding visual images from the Renaissance to the present day. Examples of writers and artists who will be studied include: Racine, Lebrun (17th century); Diderot, Greuze (18th century); Hugo, Delacroix (19th century); Beckett, Bacon (20th century).	German 130b. <b>German Romanticism</b>	The course studies literary and theoretical works of the Romantic movement and examines concurrent attitudes toward the German past, religion, philosophy, art, music and science. Lectures and readings in German.
	Ms. Hale	Ms. Frisch	
French 155a. <b>Literature and Ideology</b>	<input type="checkbox"/> Not offered 1985-1986	German 140a. <b>German Literature in the Nineteenth Century</b>	A study of German, Austrian and Swiss prose, poetry and drama from Heine to Hauptmann, including the major figures of "Young Germany," Poetic Realism and Realism (Buchner, Drosse-Hüllschoff, Moike, Grillparzer, Gotthelf, Hebbel, Stifter, Nestroy, Keller, Raabe, Fontane, etc.). Lectures and readings in German.
French 170b. <b>The Moralist Tradition in French Literature</b>	<input type="checkbox"/> Not offered 1985-1986	Mr. Zohn	
French 178a. <b>Fact and Fiction in France: The Uses of the Past</b>	<input type="checkbox"/> Not offered 1985-1986	German 150aR. <b>The Jewish Contribution to German Literature</b>	This course will examine the literary harvest of the German-Jewish symbiosis from the Minnesinger Susskind von Trimberg to Nelly Sachs, the poetess of the Holocaust, concerning itself with those Jewish writers in or from Germany (Heine, Wasserman, Lasker-Schuler), Austria (Beer-Hoffman, Schnitzler, S. Zweig), and Czechoslovakia (Kafka, Brod, Werfel) whose writings reflect Jewish themes or were shaped by the creative tension between the writers' Jewishness and the culture of German-speaking countries.
French 180b. <b>Modern French Critical Thought</b>	<input type="checkbox"/> Not offered 1985-1986	Lectures and readings in English. Students with advanced preparation will be expected to do the reading in German.	
French 185a. <b>Symbolism and Myth in Nineteenth Century France</b>	<input type="checkbox"/> Not offered 1985-1986	Mr. Zohn	
<b>German</b>			
German 102a. <b>German Literature before 1700</b>	<input type="checkbox"/> Not offered 1985-1986	German 160b. <b>German Drama and Lyric Poetry from Naturalism to the Second World War</b>	<input type="checkbox"/> Not offered 1985-1986
German 103a. <b>Conversation, Composition, and Advanced Reading in German</b>	Ms. Frisch	German 170bR. <b>Starting from Zero: German Literature Since World War II</b>	We will trace the efforts of a new generation of German writers in both West and East Germany to come to terms with the horrors of war and totalitarianism and with the materialism of the post-war "economic miracle." Literary investigations will focus on major writers and poets such as Grass, Johnson, Lenz, Wolff, Boll, Celan, Sachs, Bachmann, Dürrenmatt, Frisch, Weiss and Handke. Class discussions will be in English. Reading available in German and in English translation. Viewing of recent German films will supplement material.
German 106aR. <b>Advanced Composition and Style</b>	<input type="checkbox"/> Not offered 1985-1986	Mr. Frey	
German 110a. <b>Introduction to the Life and Works of Goethe</b>	<input type="checkbox"/> Not offered 1985-1986	German 180a. <b>Twentieth Century Prose: Mann, Kafka, Hesse</b>	<input type="checkbox"/> Not offered 1985-1986
German 120a. <b>Enlightenment, Storm and Stress, Idealism: Lessing, Lenz, and Schiller</b>	<input type="checkbox"/> Not offered 1985-1986	German 190bR. <b>Vienna at the Turn of the Century</b>	<input type="checkbox"/> Not offered 1985-1986
		German 195b. <b>The Culture of the Weimar Republic</b>	<input type="checkbox"/> Not offered 1985-1986

**Italian**

Italian 105a.  
**Contemporary  
Italian Culture**

Not offered 1985-1986

Italian 140a.  
**Dante's Divine  
Comedy**

A close study of the entire poem — **Inferno, Purgatorio, Paradise** — as a symbolic vision of reality reflecting the culture and thought — political, philosophical, theological — of the Middle Ages. Readings will include two minor works, the **Vita Nuova** and **On Monarchy**. No knowledge of Italian is required.

Mr. Lansing

**Russian**

Russian 106b.  
**Advanced  
Composition,  
Conversation and  
Reading**

Conducted entirely in Russian.  
Prerequisite: Russian 3a or equivalent.

Ms. Dalton

Russian 110a.  
**Advanced Readings  
in Russian**

Not offered 1985-1986

Russian 130a.  
**Nineteenth Century  
Russian Literature**

Not offered 1985-1986

Russian 134b.  
**Stories and Plays of  
Chekhov**

Not offered 1985-1986

Russian 146a.  
**Dostoevsky**

A comprehensive survey of Dostoevsky's life and works, with special emphasis on his five major novels. Conducted in English. Readings available in Russian for concentrators, and in English translation.

Ms. Dalton

Russian 148a.  
**Survey of Russian  
Theater from 1719  
to 1917**

Not offered 1985-1986

Russian 148bR.  
**A Survey of  
Twentieth Century  
Russian Theater:  
Chekhov to the  
Present**

History and development of Russian drama from Chekhov to the present. Conducted in English. Readings available in Russian and in English translation.

Mr. Szulkin

Russian 149b.  
**Twentieth Century  
Russian Literature,  
Art and Theater**

We will focus on the three decades 1900-1930 and their various artistic movements (Futurism, Constructivism, Imagism, Cubism, Dada, Surrealism) as reflected in literature, painting and theater. We will explore the interrelationships between these artistic movements and the political scene. Readings will illustrate the richness of this modern period of Russian culture. Conducted in English. Readings in English translation.

Mr. Szulkin

Russian 161b  
**The Structure of  
Modern Russian**

Not offered 1985-1986

**Spanish**

Spanish 120a.  
**Cervantes: In Depth  
Study of *Don  
Quijote***

Not offered 1985-1986

Spanish 125aR.  
**The Seventeenth  
Century**

The baroque mind: breakdowns and reorganization. Works by seventeenth century Spanish poets and novelists.

Ms. Collard

Spanish 130a.  
**Nineteenth Century  
Spanish Literature**

Not offered 1985-1986

Spanish 140a.  
**Masters of Spanish  
Poetry**

Not offered 1985-1986

Spanish 150a.  
**Spanish Drama of  
the Golden Age**

A journey in search of life, liberty and the pursuit of happiness. The transformation and development of modern theatre and characters as seen in representative works of Cervantes, Lope de Vega, Tirso de Molina, Calderón and their contemporaries.

Conducted in English with readings in English translation.

Ms. Lida

Spanish 160a.  
**Studies in Latin  
American  
Literature I:  
Theater**

Ms. Méndez-Faith

Spanish 160b.  
**Readings in Latin  
American  
Literature II**

Not offered 1985-1986

Spanish 161a. <b>Masters of Modern Latin American Poetry</b>	<input type="checkbox"/> Not offered 1985-1986	Spanish 180b. <b>Twentieth Century Spanish Peninsular Literature: Narrative</b>	<input type="checkbox"/> Not offered 1985-1986
Spanish 162b. <b>Studies in Argentine and Brazilian Literature</b>	<input type="checkbox"/> Not offered 1985-1986	Spanish 181a. <b>Revolt in Spain: Literature and Painting</b>	<input type="checkbox"/> Not offered 1985-1986
Spanish 163b. <b>Colonial and Nineteenth Century Latin American Literature</b>	A study of the search for an authentic American reality. Topics to be considered will be the trauma of conquest, the disappointments of independence, the failure of traditional or borrowed institutions and the response to world politics and economy. Readings: selections from Cortéz, Las Casas, El Inca Garcilasso, Bolívar, etc.	Spanish 182b. <b>The Spanish Civil War: Cultural Cataclysm</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Duffy		Spanish 183a. <b>Images of Spain</b>
Spanish 170bR. <b>The Generation of 1898</b>	Readings from: Unamuno, Baroja, Azorín, Machado, Ganivet.	Spanish 185b. <b>Realism in Modern Spain</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Duffy		A study of various realistic techniques in nineteenth and twentieth century Spain and their relationship to the realistic tradition in Spanish culture. Movements and styles such as <i>costumbrismo</i> , naturalism, perspectivism, <i>tremendismo</i> , surrealism, as expressed in a number of artistic media. Focus will be on writers and artists such as Galdós, Pardo, Bazán, Blasco Ibáñez, Pérez de Ayala, Cela, Lorca, Guillén, Dalí, Picasso, Buñuel.
			Mr. Larsen

# Mathematics

## Objectives

The graduate program in mathematics is designed primarily to lead to the Doctor of Philosophy degree. The formal course work is devoted to giving the student a broad foundation for work in modern pure mathematics. An essential part of the program consists of seminars on a variety of topics of current interest in which mathematicians from Greater Boston often participate. In addition, the Brandeis-Harvard-M.I.T. Mathematics Colloquium gives the student an opportunity to hear the current work of eminent mathematicians from all over the world.

## Admission

The general requirements for admission to graduate work in mathematics are the same as those for the Graduate School as a whole. The Department has available a variety of fellowships and scholarships for well-qualified students. To be considered for such financial support the student should submit an application by February 15.

## Faculty

Professor **Teruhisa Matsusaka**, Chair: Algebraic Geometry. Classification and Deformations of Algebraic Varieties.

Professor **Maurice Auslander**: Non-commutative Algebra. Homological Algebra.

Professor **Edgar H. Brown Jr.**: Algebraic Topology: Manifolds, Cobordism, Surgery, Homotopy Theory.

Professor **David A. Buchsbaum**: Commutative Algebra. Homological Algebra.

Professor **David Eisenbud**: Commutative Algebra, Algebraic Geometry. Knot Theory and Singularities of Complex Varieties.

Professor **Harold I. Levine**: Differential Topology. Singularities of Differential Maps.

Professor **Jerome P. Levine**: Differential Topology. Knot Theory and Related Algebra.

Professor **Alan L. Mayer**: Classical Algebraic Geometry and Related Topics in Mathematical Physics.

Professor **Paul B. Monsky**: Number Theory. Arithmetic Algebraic Geometry.

Professor **Richard S. Palais**: Non-linear Partial Differential Equations. Calculus of Variations in Geometry of Mathematical Physics. Transformation Groups.

Professor **Gerald W. Schwarz**: Smooth and Algebraic Transformation Groups, especially Orbit Structures.  $C^{\infty}$  Functions on  $R^n$ .

Visiting Professor **Pierre van Moerbeke**: Stochastic Processes. Korteweg-de Vries Equation. Toda Lattices.

Associate Professor **Mark Adler**: Analysis: Differential equations, completely integrable systems.

Associate Professor **Michael Harris**: Arithmetic of Abelian Varieties Over Number Fields. Class Field Theory.  $P$ -adic Representation Theory. L-Functions.

Associate Professor **Kiyoshi Igusa**: Algebraic K-Theory.

Assistant Professor **Ira Gessel**: Theoretical Computer Science, enumerative combinations.

Assistant Professor **Robert Indik**: Number Theory.

Assistant Professor **Thomas Parker**: Differential Geometry and the Geometry of Mathematical Physics.

Assistant Professor **Daniel Ruberman**: Geometric topology: knots and low dimensional manifolds.

Assistant Professor **James Scovel**: Geometry on Non-Linear Partial Differential Equations.

Assistant Professor **Takahiro Shiota**: Analysis: Partial differential equations.

**Degree Requirements****Master of Arts**

1. One year's residence as a full-time student.
2. Successful completion of an approved schedule of courses.
3. Satisfactory performance in the basic courses in algebra, analysis, topology and geometric analysis — or equivalent examinations (see Program of Study).
4. Proficiency in reading French, German, or Russian.

**Doctor of Philosophy**

1. Residence as a full-time student for two years.
2. Successful completion of an approved schedule of courses.
3. Superior performance in the basic courses in algebra, analysis, topology and geometric analysis — or equivalent examinations (see Program of Study).
4. Participation in the Second-Year Seminar.
5. Superior performance in the Qualifying Examination.
6. Proficiency in reading two of French, German or Russian.
7. Doctoral dissertation approved by the Department.
8. Successful defense of the dissertation.

**Program of Study.**

The normal first year of study consists of Mathematics 101a and b, 111a and b, and 121a and b. In exceptional circumstances and only with the permission of the graduate adviser, a student with superior preparation may omit one or more of these courses and elect higher level courses instead. In this case he or she must take an examination in the equivalent material during the first year. The second year's work will normally consist of

**Qualifying Examination.**

Mathematics 110a and higher level courses in addition to preparation for the qualifying examinations described below and participation in the second-year seminar. Upon completion of the qualifying examinations, the student will choose a dissertation adviser and begin work on a thesis. This should be accompanied by advanced courses and seminars.

The Qualifying Examination consists of two parts: a major examination and a minor examination. Both are normally taken in the latter part of the second year but may occasionally be postponed until early in the third year. For the major examination the student will choose a limited area of mathematics, e.g. differential topology, or several complex variables, or ring theory —

and a major examiner from among the faculty. Together they will plan a program of study and a subsequent examination in that material. The aim of this study is to prepare the student for research toward the Ph.D. The minor examination will be more limited in scope and less advanced in content. The procedures are similar to those for the major examination, but its subject matter should be significantly different.

**Admission to Candidacy.**

To be admitted to candidacy for the Ph.D. degree in Mathematics, the student must have successfully completed the qualifying examination, must demonstrate proficiency in reading French, German or Russian and must be recommended for candidacy by the department.

**Dissertation and Defense.**

The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

**Courses of Instruction****Mathematics 101a and b.  
Algebra I**

Groups, rings, modules. Galois theory, affine rings and rings of algebraic numbers. Multilinear algebra. The Wedderburn Theorem. Other topics as time permits.

Fall Term: Mr. Auslander  
Spring Term: Mr. Gessel

**Mathematics 110a.  
Geometric Analysis**

Manifolds, tensor bundles, vector fields and differential forms. Frobenius theorem. Integration, Stoke's theorem, and deRham's theorem.

Mr. H. Levine

**Mathematics 110b.  
Geometric Analysis**

The correspondence between Lie groups and Lie algebras. Exponential map, homomorphisms, Lie sub groups, and homogeneous spaces. Representations of compact Lie groups.

Mr. H. Levine

**Mathematics 111a.  
Real Analysis**

Measure and integration. LP spaces, Banach spaces, Hilbert spaces. Radon-Nikodym, Riesz representation, and Fubini theorems. Fourier transforms.

Mr. Palais

**Mathematics 111b.  
Complex Analysis**

The Cauchy integral theorem, calculus of residues, and maximum modulus principle. Harmonic functions. The Riemann mapping theorem and conformal mappings. Other topics as time permits.

Mr. Van Moerbeke

**Mathematics 121a and b.  
Topology I**

Point set topology, fundamental group, covering spaces. Simplicial complexes, elementary homology and cohomology theory with applications. Manifolds and orientation, cup and cap products, Poincaré duality. Other topics as time permits.

Fall Term: Mr. Igusa  
Spring Term: Mr. J. Levine

**Mathematics 200aR.  
Second Year Seminar**

Mr. Schwarz

Mathematics 201a. <b>Isolated Surface Singularities</b>	Resolution of surface singularities. Rational singularities from several points of view (rings of invariants, Dynkin diagrams, etc.). Simple elliptic singularities. Sheaves vs. representation theory for the simple singularities (Artin-Verdier).	Mathematics 296. <b>Seminar in Artin Rings and Representation Theory</b>	Research seminar; not normally taken for credit.
	Mr. Mayer	Staff	
Mathematics 201b. <b>Topics in Representation Theory</b>	Some of the topics will be related to the contents of 201a, isolated surface singularities. Prospective students are advised to take this course if possible.	Mathematics 297. <b>Number Theory Seminar</b>	Research seminar; not normally taken for credit.
	Mr. Eisenbud	Staff	
Mathematics 202a and b. <b>Algebraic Geometry I</b>	Fall Term: Mr. Harris Spring Term: Mr. Mayer	Mathematics 299a and b. <b>Readings in Mathematics</b>	Staff
Mathematics 203a. <b>Algebraic Number Theory I</b>	Mr. Monsky	Mathematics 302a. <b>Algebraic Geometry</b>	Mr. Eisenbud
Mathematics 203b. <b>Topics in Algebraic Number Theory</b>	Mr. Harris	Mathematics 302b. <b>Topics in Algebraic Geometry</b>	Moduli spaces of curves. An introduction to their construction and to the geometry of $M_g$ and $M_{g,1}$ for $g$ . Mr. Indik
Mathematics 211a and b. <b>Analysis II</b>	Topics in mechanics and dynamical systems. Discussed will be both examples and theory in dynamical systems and in particular, in Hamilton mechanics. The course will develop all the tools necessary and will be elementary. At the same time we will discuss some recent developments.  Fall Term: Mr. Adler Spring Term: Mr. Parker	Mathematics 311a. <b>Analysis III</b>	Topics in partial differential equations. Mr. Scovel
Mathematics 221a. <b>Topology II</b>	Elementary homotopy theory, fibrations, obstruction theory, and spectral sequences.  Mr. J. Levine	Mathematics 321a and b. <b>Topology III</b>	Fall Term: Mr. Brown Spring Term: Mr. Ruberman
Mathematics 221b. <b>Topology II</b>	Cohomology operations, characteristic classes, classifying spaces, elementary cobordism.  Mr. Brown	Mathematics 324aR. <b>Lie Groups</b>	Mr. Adler
Mathematics 291. <b>Fellowship of the Ring — Seminar in Commutative Algebra</b>	Research seminar; not normally taken for credit.  Staff	Mathematics 326a and b. <b>Topics in Algebraic Geometry and Commutative Algebra</b>	Fall Term: Mr. Buchsbaum Spring Term: Mr. Shiota
Mathematics 293. <b>Topology Seminar</b>	Research seminar; not normally taken for credit.  Staff	Mathematics 335a. <b>Topics in Lie Algebras</b>	□ Not offered 1985-1986
Mathematics 295. <b>Algebraic Geometry Seminar</b>	Research seminar; not normally taken for credit.  Staff	Mathematics 399a and b. <b>Readings in Mathematics</b>	Staff
		Mathematics 401-415. <b>Research</b>	Independent research for the Ph.D. degree. 401. Mr. Auslander 402. Mr. Brown 403. Mr. Buchsbaum 404. Mr. H. Levine 405. Mr. J. Levine 406. Mr. Matsusaka 407. Mr. Monsky 408. Mr. Palais 409. Mr. Schwarz 410. Mr. Eisenbud 411. Mr. Mayer 412. Mr. Van Moerbeke 413. Mr. Igusa 414. Mr. Adler 415. Mr. Harris

## Music

### Objectives

The graduate program in music, leading to the degrees of Master of Fine Arts and Doctor of Philosophy, is designed to provide a command of the craft of composition and an understanding of the nature, structural basis, and historical development of music.

The following general fields of study are offered in music:

1. **Composition.** This program, emphasizing composition and supported by studies in analysis, leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

2. **Musicology.** In this program students may elect to emphasize or concentrate in one of two different programs of study, music history or theory and analysis. In the music history program, a variety of techniques and methodologies, including source studies, style development and historiography are applied to different repertoires and historical problems. The program in theory and analysis features works in the history of theory from the medieval period to the present, as well as analytic work in the context of theory construction and the evaluation of tonal as well as contemporary analytic models. This program leads to the degree of Master of Fine Arts and Doctor of Philosophy.

Students must specialize in one of these areas, but composers are expected to undertake some work in music history and historians to acquire some competence in tonal writing.

### Admission

Only a limited number of students will be accepted. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Applicants for study in musical composition and theory are required to submit, in addition to a transcript of their undergraduate records, evidence of qualification in the form of examples of original work in musical composition and advanced work in musical theory. Applicants for admission in the history of music should submit examples of their prose writing on music as evidence of their ability to handle the language and specialized vocabulary. Undergraduate theses or term papers will be satisfactory. History applicants wishing to specialize in analysis should also submit examples of advanced work in musical theory. This work should be submitted together with the formal application for admission.

All applicants are expected to have some proficiency at the piano or an orchestral instrument. Information about this should be furnished when making formal application. A departmental written test in basic musicianship and analysis will be sent to all applicants; answers are to be submitted by mail on or before February 15.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the department on or before the final date specified in the Academic Calendar for filing "Application for Financial Aid." Readmission will be refused in cases where students have not demonstrated a capacity for acceptable graduate work.

### Faculty

Professor  
**Robert L. Marshall,**  
Chair

Professor  
**Martin Boykan**

Professor  
**Harold S. Shapero,**  
Director of Electronic  
Studies

Professor  
**Caldwell Titcomb**

Associate Professor  
**Allan R. Keiler,**  
Director of Graduate  
Studies

Associate Professor  
**James D. Olesen,**  
Acting Director of  
Performing Activities

Associate Professor  
**Jessie Ann Owens**

Assistant Professor  
**Allen L. Anderson**

Assistant Professor  
**Eric Chafe**

Assistant Professor  
**Peter B. Child**

Assistant Professor  
**Edward C. Nowacki,**  
Theory Coordinator

Assistant Professor  
**Conrad M. Pope**

Lecturer with Rank of  
Assistant Professor  
**David Hoose**

Performing Artists in  
Residence  
**Susan Klebanow**  
**Sarah Mead**  
**Lawrence Siegel**

Lydian String  
Quartet  
**Judith Eisenberg**  
**Mary Ruth Ray**  
**Rhonda Rider**  
**Wilma Smith**

## Degree Requirements

### Master of Fine Arts

#### Language Requirements.

Group A: French, German, Italian.  
 Group B: Spanish, Latin, Hebrew, Greek (and other languages at the discretion of the music faculty).

Candidates for the master's degree in Musical Composition and Theory must possess a reading knowledge of one language from Group A.

Candidates for the master's degree in History of Music must possess a reading knowledge of two languages from Group A.

Foreign language course credits will not in themselves constitute fulfillment of the language requirements for advanced degrees. All candidates must pass language examinations set or approved by the music faculty and offered periodically during the academic year. Students are urged to take these examinations at the earliest feasible date. In case of failure, an examination may be taken more than once.

#### Instrumental Proficiency.

At least moderate proficiency at the piano is required of all candidates for advanced degrees.

#### Residence Requirements.

Six full courses or the equivalent in half-courses at the graduate level, completed with distinction, and a thesis are required of all candidates.

The department normally allows credit for no more than one full course taken at another institution.

In general, the program of course work is completed in two academic years. It is suggested that students pursue no more than three full courses in any one year.

#### Examinations.

Shortly after their arrival, new graduate students will be expected to take an examination in the standard literature of music. Where deficiency occurs, examinations will be repeated.

Before the end of their second year of study, candidates for the degree of Master of Fine Arts must demonstrate their competence in both theory and history by means of a written general examination in their major field, and either by an examination or by one of the following alternatives in their minor field.

#### For candidates in composition

the successful completion of Music 182a (or b) or 184a (or b), or the equivalent (requiring prior approval by the graduate adviser) or of comparable courses taken elsewhere, will be accepted in lieu of a minor general examination in music history. The faculty reserves the right to evaluate the student's accomplishment in history courses not taken at Brandeis.

#### For candidates in music history

competence in theory can be demonstrated by the successful completion of at least one semester of Music 227, or by a written examination.

The following timetable is suggested for major general examinations: **For candidates in composition**, the composition examination may be taken during the first year and repeated if necessary in the second; the analysis portion of the examination will normally be taken during the second year. Examinations may be repeated in the third year only in the case of a student not proceeding beyond the master's degree. **For candidates in music history**, major general examinations will normally be taken during the second year; they may be repeated in the third year at the discretion of the faculty.

#### Thesis.

Candidates for the degree of Master of Fine Arts in Music are required to submit a thesis. For candidates in musical composition and theory, this will consist of a musical composition, its scope to be approved by the music faculty. For candidates in the history of music it will be an analytical or historical study on a topic acceptable to the music faculty. Candidates in the history of music may submit, in lieu of a separate thesis, revised copies of two seminar papers that have been certified by the seminar instructor and at least one other faculty member as demonstrating a high degree of competence in research and writing. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than December 1 for a February degree or March 1 for a May degree.

<b>Doctor of Philosophy</b>	Admission to the doctoral program is normally granted at the end of the second year of residence and is determined by the student's performance in course work and general examinations. For candidates in music history, acceptance may be deferred pending repetition of portions of the major examinations.	Admission to Candidacy.	candidates in composition and theory, a semester of Music 200 or 299 is suggested; for candidates in history, an additional semester of Music 227.
<b>Residence Requirements.</b>	A minimum of eight full courses or the equivalent in half-courses at the graduate level, completed with distinction, are required of all candidates.		After meeting their language, residence, and general examination requirements, candidates for the Ph.D. must pass a special oral qualifying examination.
	In general, the program of course work will be completed in three academic years.	Dissertation.	Students will be admitted to candidacy for the Ph.D. degree upon successful completion of the written and oral qualifying examinations, fulfillment of the language requirements, and the approval of a dissertation topic.
<b>Instrumental Proficiency.</b>	Applicants who have done graduate work elsewhere may apply for transfer of credit for such work; a maximum of one year of residence may be granted.		Candidates for the degree of Doctor of Philosophy in Composition must submit an original musical composition and a thesis on a theoretical or analytical subject. Candidates for the degree of Doctor of Philosophy in History of Music must submit a dissertation on a historical or analytical subject. Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed six hundred words in length, should be submitted to the department or committee chairman no later than December 1 for a February degree, and March 1 for a May degree of the academic year in which the Ph.D. degree is to be conferred.
<b>Language Requirements.</b>	At least moderate proficiency at the piano is required of all candidates.		Written dissertations should demonstrate the competence of the candidate as an independent investigation, his or her critical ability, and effectiveness of expression. Upon completion of the dissertation, the candidate will be expected to defend it in an oral examination.
<b>Examinations.</b>	Candidates for the Ph.D. degree have no additional written examination requirements in their major field beyond those for the M.F.A. In the minor field, doctoral-level examinations may, if desired, be replaced by the option of an additional semester of course work completed with distinction. For		

## Courses of Instruction

Except in the rarest circumstances, graduate credit is not allowed for courses numbered below Music 165.

**Music 168a. *Orchestration***  Not offered 1985-1986

**Music 171a. *History of Music and Drama Criticism***  Not offered 1985-1986

**Music 180bR. *Ethnomusicology***  Not offered 1985-1986

**Music 182aR. *Topics before 1750*** Mr. Chafe

**Music 184a. *Topics After 1750***  Not offered 1985-1986

**Music 185aR. *Twentieth Century***  Not offered 1985-1986

### Music 194b. *Problems in Cultural Historiography*

Not offered 1985-1986

### Music 195aR. *Electronic Music*

Composition and recording of electronic music. Technical electronics as they apply to musical problems.

Mr. Shapero

### Music 197a. *Tutorial in the Analysis of Tonal Music*

Not offered 1985-1986

### Music 197b. *Tutorial in the Analysis of Twentieth Century Music*

Basic analytical problems of the music of the twentieth century approached through detailed study of a few representative works.

Mr. Anderson

### Music Colloquium

Discussions of special topics led by the faculty and occasional guests. Some of the sessions will include performances of new works. Required of all graduate students. *Non-credit.*

Staff and Visiting Lecturers

Music 200b. <b>Proseminar in Medieval Music</b>	Broad coverage of the principal topics and research techniques of medieval music; structure of the liturgy, chant notation, oral transmission theory, tropes and sequences, polyphonic notation, rhythmic modes. Introduction to standard bibliographic tools including editions, facsimiles, microfilms, liturgical books and reference books.	Music 214b. <b>Seminar: Baroque Topics</b>	An in-depth investigation of one selected topic in baroque music. Typical topics include the Monteverdi madrigals, seventeenth century instrumental music, the Bach Passions. The methodology employed will vary according to the subject; emphasis will be given to more recent research in most cases.
	Mr. Nowacki		Mr. Chafe
Music 201. <b>Proseminar in Music of the Renaissance</b>	<input type="checkbox"/> Not offered 1985-1986	Music 215. <b>Seminar: The Bach Sources</b>	<input type="checkbox"/> Not offered 1985-1986
Music 202. <b>Proseminar in Music of the Baroque</b>	<input type="checkbox"/> Not offered 1985-1986	Music 216. <b>Seminar: The Origins of the "Classical Style"</b>	<input type="checkbox"/> Not offered 1985-1986
Music 203. <b>Advanced Musical Analysis</b>	<input type="checkbox"/> Not offered 1985-1986	Music 217a. <b>Seminar: Recent Developments in Mozart Research</b>	The purpose of the course will be to assess the current state of the several areas of Mozart research; biography, source studies, work analysis, performance practice, and the composer's music-historical position in the development of the "classical style."
Music 204. <b>Proseminar in Music of the 18th Century</b>	In addition to tracing the evolution of the principal genres (e.g., sonata, symphony, string quartet, opera buffa, opera seria), the course will assess the historical position of the major figures from Bach to Handel to Mozart and Haydn. Particular emphasis will be placed on understanding the phenomenon of the "style shift" from baroque to classical style.	Mr. Marshall	Mr. Marshall
Music 205a. <b>Proseminar in Music of the 19th Century</b>	Mr. Marshall	Music 218. <b>Seminar in the Music of the Nineteenth Century</b>	<input type="checkbox"/> Not offered 1985-1986
Music 205a. <b>Proseminar in Music of the 19th Century</b>	A broad study of the principal stylistic developments and musical genres of the 19th century; topics discussed would be, e.g., the significance of Beethoven on the musical thinking of the 19th century, the rise of national schools of composition, especially opera, program music and its aesthetic and compositional bases.	Music 219. <b>Seminar: Wagner and Die Meistersinger</b>	<input type="checkbox"/> Not offered 1985-1986
Music 206. <b>Seminar in Music of the Middle Ages</b>	Mr. Keiler	Music 220. <b>Seminar: The German Post-Romantic Period</b>	<input type="checkbox"/> Not offered 1985-1986
Music 210. <b>Seminar in Music of the Middle Ages</b>	<input type="checkbox"/> Not offered 1985-1986	Music 224. <b>Seminar in Medieval Music Theory</b>	<input type="checkbox"/> Not offered 1985-1986
Music 211. <b>Seminar in Renaissance Musical Sources</b>	<input type="checkbox"/> Not offered 1985-1986	Music 225. <b>Seminar in Baroque Theory</b>	<input type="checkbox"/> Not offered 1985-1986
Music 212a. <b>Seminar: Theory of Modality and Tonality</b>	An investigation of various concepts related to tonal organization (such as mode, key, system, solmization) based on a close reading of theoretical treatises from the fifteenth through the seventeenth centuries.	Music 226a. <b>History and Literature of Western Music Theory: Baroque to 1850</b>	<input type="checkbox"/> Not offered 1985-1986
	Ms. Owens	Music 226b. <b>History and Literature of Western Music Theory: 1850 to the Present</b>	<input type="checkbox"/> Not offered 1985-1986
Music 213. <b>Seminar in Music of the Renaissance</b>	<input type="checkbox"/> Not offered 1985-1986		

Music 227a. <b>Proseminar in Theory and Composition</b>	Technical projects in theory and composition; tonal forms and contrapuntal techniques. Mr. Anderson	Music 292b. <b>Seminar in Composition</b>	Section 1: Mr. Boykan Section 2: Mr. Pope
Music 227b. <b>Proseminar in Theory and Composition</b>	Mr. Shapero	Music 299a and b. <b>Individual Research and Advanced Work</b>	Staff
Music 228a. <b>Seminar in Twentieth Century Techniques</b>	<input type="checkbox"/> Not offered 1985-1986	Music 401-411. <b>Dissertation Research</b>	Required of all doctoral candidates 401. Mr. Boykan 402. Mr. Marshall 403. Mr. Shapero 405. Mr. Titcomb 406. Ms. Owens 407. Mr. Keiler 408. Mr. Chafe 409. Mr. Pope 410. Mr. Nowacki 411. Mr. Anderson
Music 233a. <b>Topics in Analysis</b>	<input type="checkbox"/> Not offered 1985-1986	Electronic Music Studios	Two studios with facilities for the composition of electronic music are available to qualified student composers. Director: Mr. Shapero
Music 233b. <b>Topics in Analysis</b>	Mr. Keiler		
Music 244b. <b>Berlioz</b>	<input type="checkbox"/> Not offered 1985-1986		
Music 246a. <b>Stravinsky</b>	<input type="checkbox"/> Not offered 1985-1986		
Music 270a and b. <b>Seminar in Serial Music</b>	Mr. Boykan		
Music 292a. <b>Seminar in Composition</b>	Group meetings and individual conferences. Opportunities for the performance of student works will be provided.  Section 1: Mr. Boykan Section 2: Mr. Pope		

## The Philip W. Lown School of Near Eastern and Judaic Studies

The Lown School is the center for all programs of teaching and research in the areas of Judaic Studies, Ancient Near Eastern Studies and Islamic and Modern Middle Eastern Studies. The school includes the Department of Near Eastern and Judaic Studies, the Hornstein Program for Jewish Communal Service and the Center for Modern Jewish Studies. The Department of Near Eastern and Judaic Studies offers academic programs in the major areas of its concern. The Horn-

stein Program is a professional training program leading to the Master of Arts degree in Jewish Communal Service. It makes full use of academic resources of the Department of Near Eastern and Judaic Studies and other departments in the university.

The Center for Modern Jewish Studies conducts, and serves to stimulate, research and teaching in Contemporary Jewish Studies, primarily in the field of American Jewish Studies.

### Near Eastern and Judaic Studies

#### Objectives

The graduate program in Near Eastern and Judaic Studies, leading to the Master of Arts and Doctor of Philosophy degrees, is designed to train scholars and teachers in the various cultures of the Near East and of classical and modern Judaic civilization, and to advance scholarly research in these areas. This work is done mainly through study of the relevant languages and literatures and the interpretation of historical sources.

#### Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this department.

#### Faculty

Associate Professor **Leon A. Jick**, Chair: Contemporary Jewish history.

Professor **Michael Fishbane**: Biblical studies. Dead Sea Scrolls.

Professor **Marvin Fox**, Director of the Lown School: Jewish philosophy. Rabbinic thought. Modern Jewish thought.

Visiting Professor **Yehuda Friedlander**: Hebrew literature.

Professor **Alfred L. Ivry**: Jewish philosophy. Islamic philosophy.

Visiting Professor **Elie Kedourie**: Modern Middle Eastern studies.

Professor **Jehuda Reinharz**: Modern Jewish history. History of Zionism.

Professor **Marshall Sklare**, Director of the Center for Modern Jewish Studies: Sociology of the Jewish community.

Professor **Dwight W. Young**: Ancient Near East civilization. Assyriology. Ugaritic. Biblical studies.

Associate Professor **Tzvi Abusch**: Assyriology. Religions and cultures of the Ancient Near East.

Visiting Associate Professor **Sylvia Haim**: Modern Middle Eastern studies.

Associate Professor **Reuven Kimelman**: Talmud and Rabbinic literature.

Associate Professor **Avigdor Levy**, Director of Islamic and Middle Eastern Studies: Middle Eastern studies.

Associate Professor **Benjamin C. I. Ravid**, Director of Graduate Studies: Jewish history.

Associate Professor **Bernard Reisman**: Jewish communal service.

Associate Professor **Gary Tobin**: Jewish community research and planning.

Assistant Professor **Jay Brodbar-Nemzer**: Modern Jewish studies.

Visiting Assistant Professor **David Fishman**: East European Jewish history and culture.

Assistant Professor **Aaron Katchen**: Second Commonwealth and Hellenistic Judaism. Early modern Jewish history.

Lecturer **Charles Cutter**: Judaic bibliography.

Lecturer with rank of Assistant Professor **Ruth Gollan**, Director, Hebrew language program.

Lecturer **Miroslav Krek**: Islamic bibliography.

#### Program of Study

Among the main fields in the area of Near Eastern and Judaic Studies in which courses are being given in the Graduate School are: Ancient Near East Studies. Biblical Studies. Jewish History. Hebrew Literature. Jewish Thought.

Jewish Philosophy, Medieval and Modern. Islamic Philosophy. Ottoman History. The Modern Middle East. Contemporary Jewish Studies.

The department regularly offers additional courses in related fields.

<b>Degree Requirements</b>		<b>Language Requirements.</b>	Candidates will be required to establish competence in Hebrew or Arabic as well as in two European languages, normally French and German. Additional languages may be required as necessary for research in each individual candidate's field.
<b>Master of Arts</b>		<b>Comprehensive Examinations.</b>	All candidates for the Ph.D. degree are required to pass three comprehensive examinations. The first examination in each field will be a written comprehensive qualifying examination covering the field as a whole. The second and third examinations will usually be oral and will cover more specialized subjects within the candidate's field.
<b>Residence Requirements.</b>		<b>Admission to Candidacy.</b>	A student registered for studies leading to the Ph.D. degree becomes a candidate for that degree upon fulfillment of the residence requirements, when he/she has passed the comprehensive examinations, fulfilled the language requirements, and has had a dissertation proposal approved by the department.
<b>Language Requirements.</b>		<b>Dissertation and Defense.</b>	The dissertation must demonstrate the candidate's thorough knowledge of the field and competence in independent research, and must constitute an original contribution to knowledge. Two copies of the dissertation, one of which must be the original typescript, are to be deposited in the office of the department chairman no later than April 1 of the year in which the candidate expects to earn the degree. The student must successfully defend the dissertation at a final oral examination.
<b>Comprehensive Examination.</b>			
<b>Thesis.</b>			
<b>Doctor of Philosophy</b>			
<b>Residence Requirements.</b>			
<b>Courses of Instruction</b>			
<b>NEJS 101a and b. Introductory Literary Arabic</b>	A first course in literary Arabic covering the essentials of grammar, reading, pronunciation, translation and composition.  Mr. Krek	<b>NEJS 103b Advanced Literary Arabic</b>	A continuation of NEJS 103a.  Mr. Levy
<b>NEJS 102a. Intermediate Literary Arabic</b>	Study of advanced grammatical and syntactical forms. Reading in classical and modern texts. Drills in pronunciation and composition.  Prerequisite: NEJS 101 or its equivalent.  Mr. Levy	<b>NEJS 104a. Islam: Civilization and Institutions</b>	Consideration of major issues in Islamic history. Examinations of the principle of Islamic theology and law; philosophy and political theory; social and political institutions. Appreciation of Islamic civilization and culture; relations with other cultures. Islam in modern times.  Mr. Levy
<b>NEJS 102b. Intermediate Literary Arabic</b>	A continuation of NEJS 102a.  Mr. Krek	<b>NEJS 104b. Aramaic Dialectology</b>	A grammatical study of one of the ancient dialects accompanied by the reading of texts. The dialect treated will vary from year to year, and the course may be repeated for credit.  Mr. Young
<b>NEJS 103a. Advanced Literary Arabic</b>	This course is designed to help the student attain an advanced reading proficiency. The syllabus includes selections from classical and modern texts representing a variety of styles and genres.  Mr. Krek	<b>NEJS 106. Elementary Ugaritic</b>	<input type="checkbox"/> Not offered 1985-1986
		<b>NEJS 107b. Temple, Myth and Ritual in Ancient Mesopotamia</b>	<input type="checkbox"/> Not offered 1985-1986

NEJS 108b. <b>Comparative Grammar of Semitic Languages</b>	An introduction to the internal relationships within the Semitic family and the distinctive linguistic features of its components. Grammatical and lexical similarities to Egyptian and other related languages of North Africa will be studied. Both the earliest documented ancient languages and contemporary spoken dialects will be considered.	NEJS 117bR. <b>Dead Sea Scrolls</b>	Studies in the exegetical literatures of Qumran with particular attention to a detailed examination of the so-called Pesher literature. Emphasis will be placed on interpretative techniques and a consideration of the historical background of the texts where pertinent.
	Mr. Young		Mr. Fishbane
NEJS 109a. <b>Genesis in Light of Archaeology</b>	The book of Genesis will be considered as a whole and selections will be analyzed in depth against the historical background that gave rise to the traditions. The creation of man, calculation of life spans, the deluge and Noah's ark, the patriarchal homeland, the promised land and its holy sites, the Egyptian link and the Damascus connection will be discussed.	NEJS 118bR. <b>Book of Psalms</b>	Selected readings. An examination of Hebrew and Near Eastern psalmody. A study of the leading religious concepts in the light of modern exegesis. This course will be given in Hebrew.
	Mr. Young		To be announced
NEJS 110b. <b>Medieval Philosophy</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 119b. <b>The Minor Prophets: Nahum, Habakkak, Zephaniah</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 111a. <b>Introduction to Biblical Literature</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 120b. <b>Intermediate Talmud</b>	A more intensive study of selected portions of Treatise Sanhedrin not dealt with in NEJS 53a. Greater emphasis will be placed on the understanding of the classical commentaries. Students will be expected to develop the ability to work through a section of the text on their own. The analysis will deal with the issue of voluntary and compulsory arbitration, and the binding nature of gambling agreements. Prerequisite: Hebrew 13.
NEJS 111b. <b>Genesis</b>	<input type="checkbox"/> Not offered 1984-1985		Mr. Kimelman
NEJS 112b. <b>The Book of Isaiah</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 121b. <b>Aspects of the Apocalyptic Imagination</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 113b. <b>The Book of Exodus</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 123bR. <b>Classical Biblical Commentaries</b>	An intensive study of the French and Spanish schools of Jewish commentators on selected books of the Bible.
NEJS 114a. <b>The Book of Amos</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Fox
NEJS 115a. <b>Book of Deuteronomy</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 124a. <b>Modern Jewish- Christian Religious Thought</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 116b. <b>The Problem of Evil in Jewish Philosophy</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 124b. <b>Introduction to Jewish Mysticism</b>	A survey of the field of Jewish mysticism as reflected in its history, its major texts, its original ideas and its symbolic structures. In addition to the standard secondary works, readings will include selections from the primary sources such as the Zohar. While focusing on the history and development of the central themes in Jewish mysticism, the course will also be concerned with how to read a Jewish mystical text. All readings will be in English. There is no language prerequisite.
NEJS 117aR. <b>Job and the Problem of Evil</b>	A close study of the Book of Job against the background of other biblical and ancient Near Eastern texts dealing with evil and its relationship to divinity and with the suffering of the righteous. The different theodicies will be considered within and between cultures. Other world religions will also be discussed. The text study will also introduce students to biblical poetics.		Mr. Fox
	Mr. Fishbane		

NEJS 125bR. <b>Midrashic Literature: Sifre Deuteronomy</b>	An analysis of the central ideas, the literary structures and the midrashic method of the Sifre Deuteronomy. Emphasis will be placed on a close reading of the text with a view to developing in the students the capacity to do an independent analysis of midrashic literature. Attention will also be given to the general background and development of Midrash.	NEJS 131a. <b>History of Jewish Philosophy: From the Bible to Maimonides</b>	A survey of dominant themes in Jewish philosophy as reflected in the Bible, rabbinic literature and such major thinkers as Philo, Solomon ibn Gabirol, Judah Halevi and Maimonides.
	Mr. Kimelman		Mr. Ivry
NEJS 126b. <b>Agadic Literature: Avot DeRabbi Natan</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 132b. <b>The Literary Study of Midrash</b>	An introduction to a literary study of rabbinic Bible commentaries and rabbinic legends. Representative texts will be treated from different collections and periods. Literary analysis will be influenced by Semiotics, Structuralism and post Structuralism; Russian Formalism; and Folklore Analysis. Text study will follow Hebrew texts with English translations provided.
NEJS 127aR. <b>Greek Jewish Literature</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Fishbane
NEJS 127b. <b>The Jewish Liturgy</b>	A study of the literary structure, theological framework and historical development of the Sabbath and daily liturgy. Emphasis will be placed on the interplay of the literary forms and theological ideas in each prayer, and within the flow of the complete service. Concomitantly, works on the problematics of prayer will be studied. Scholars such as Eliezer Berkovitz, Daniel Goldschmidt, Joseph Heinemann, Abraham Heschel, Issachar Jacobson and Trygve Kronholm will be read.	NEJS 135aR. <b>Neoplatonic Elements in Islamic and Jewish Philosophy</b>	The influence of Plato's philosophy, with its strong affinity to mystical thought, was widespread in medieval Jewish and Islamic philosophy. This course will examine this dimension in the writings of Shemolo ibn Gabirol, Judah Halevi, Avicenna and other leading medieval thinkers.
	Mr. Kimelman		Mr. Ivry
NEJS 128a. <b>Jews, Greeks and Romans</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 137a. <b>Three Major Themes in Modern Hebrew Literature</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 129b. <b>Alexandria: The City and the Idea</b>	A study of the first cosmopolitan society in Western History: its political and social history, its growth as a cultural center and its function as an arbiter of style and taste in the arts and sciences. The meeting of Greeks and Jew, with their diverse cultures, had profound consequences for Western culture, and the extent of their interaction will be examined in detail.	NEJS 139a. <b>Major Trends in Modern Hebrew Literature</b>	An introduction. Critical analysis of trends and aesthetic values of modern Hebrew prose, from the end of the 19th century till the second half of the 20th century. Study of selected works of M.Z. Feierberg, Y.L. Perets, M.Y. Berdichevski, Y.C. Brenner, S.Y. Agnon, A. Oz, A.B. Yeshoshua, A. Aplefeld.
	Mr. Katchen		Mr. Friedlander
NEJS 130a. <b>Images of Moses Ancient and Modern</b>	Moses, the supreme legislator and prophet of ancient Israel, often came to be viewed in later periods as the symbol of everything Jewish. We will examine a classic group of writings, from Philo and the rabbis to Buber and Freud, not only to see how later generations understood Moses' personality, character and legacy, but, more particularly, as a touchstone of changing attitudes to the Jewish heritage and as a key to the history of intergroup dynamics between Jew and non-Jew.	NEJS 139b. <b>Modern Hebrew Literature</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Katchen	NEJS 140a. <b>The Jews in Europe to 1492</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 130b. <b>The Philosophical and Religious Thought of Maimonides</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 140b. <b>From Medieval to Modern: The Jews in Europe from 1492 to 1815</b>	<input type="checkbox"/> Not offered 1985-1986
		NEJS 141bR. <b>Jews, Catholics and Protestants in Western Europe, from the Reformation to the Present</b>	A study of the political, legal, social and economic status of Catholics, Protestants and Jews in early and modern Europe, with emphasis on the status of minorities and their struggle for equality in the transition from the medieval <i>republica Christiana</i> to the modern secular nation-state.
			Mr. Ravid

NEJS 142a. <b>An Introduction to Post-Biblical Jewish History</b>	An introduction to the main trends and developments in the legal, economic, social and religious history of the Jews, with emphasis on major areas of Jewish settlement.	NEJS 147bR. <b>The Arab-Israeli Conflict</b>	Consideration of Arab-Jewish relations, attitudes and interactions from 1880 to the present. Traces the evolution of the struggle for Palestine into a major regional conflict. Emphasis is on social factors and intellectual currents and their impact on politics. Examines the conflict within its international setting.
	Mr. Ravid		Mr. Kedourie
NEJS 142bR. <b>Economic History of the Jews</b>	<input type="checkbox"/> Not offered 1985-1986		
NEJS 144a. <b>Jewish Communities in the Muslim Middle East</b>	A historical survey of Jewish-Muslim attitudes, relations and interactions in the Muslim countries of the Middle East. Among the subjects to be discussed: the legal position of the Jews under Islam; Muslim actual policies and attitudes; Jewish-Muslim cultural interaction; Jewish social organization in Muslim lands.	NEJS 148b. <b>Society and the Family in Transition: The Case of Turkey</b>	This course will examine the changing pattern of the traditional family and its role in society under the impact of modernization. It will be conducted from a comparative perspective, with the Turkish experience used as a case study. Turkish institutions will be compared and contrasted with their counterparts in selected Mediterranean countries.
	Ms. Haim		Ms. Kastoryano
NEJS 144b. <b>Nationalism in the Middle East</b>	A historical and comparative analysis of Arab, Turkish and Persian nationalism in the 20th century. Origins, ideological currents and attitudes toward national, regional and global issues are among the topics to be discussed.	NEJS 149b. <b>Islamic Bibliography</b>	The purpose of this course is to familiarize the student with the history of oral and written communications in Islam and Middle East. Origins and development of printing is discussed. Special emphasis is placed on bibliographic literature in Western languages of Arabic, Turkish and Persian manuscripts and printed works. There are no prerequisites, although a workable knowledge of European languages and languages of the area is desirable.
	Mr. Kedourie		Mr. Krek
NEJS 145bR. <b>The Making of the Modern Middle East</b>	This course will discuss the processes which led to the emergence of the modern Middle East: disintegration of Islamic society in the 19th century; European colonialism; reform and reaction; the rise of nationalism and the emergence of the modern states.	NEJS 150bR. <b>The Great Powers and the Middle East Since 1798</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Kedourie		
NEJS 146b. <b>Judaism, Christianity and Islam</b>	A comparison of three kindred religions, from antiquity to current times. The tenets of these faiths, their doctrines and rituals will be examined in the perspective of their historic and on-going relationship. Contemporary religious issues affecting all three traditions will be discussed.	NEJS 153b. <b>Sephardic Jewry</b>	From the mass conversions of Jews to Christianity in 1391 to the establishment of the Spanish Inquisition in 1478, and beyond into the sixteenth and seventeenth centuries, the role and position of Spanish and Portuguese Jewry in their own and in Iberian and world history underwent profound changes. This course examines the social and intellectual history of professing Sephardic Jewry at home and abroad, of believing New Christians, and of the secret Jews known as Marranos, many of whom later reemerged as Jews in such centers as Venice, Amsterdam and Constantinople.
	Mr. Ivry		Mr. Katchen
NEJS 147aR. <b>History of the Middle East and the Ottoman Empire, 1450-1914</b>	A historical survey of the Near East from the establishment of the Ottoman Empire as the area's predominant power to World War I. Topics include Ottoman institutions, their transformation and impact on Near Eastern society, the Ottoman Empire as a world power; decline and European imperialism; 19th century reform and westernization.		
	Mr. Levy		

NEJS 154b. <b>Introduction to Modern Arabic Political Literature</b>	A survey of representative Arabic political literature in the 20th century. This course is intended to prepare students to read and understand modern Arabic political writing against the background of contemporary historical events and intellectual currents. Among the authors studied will be Qustantin Zuraiq, Sati al-Husri, Camal Abdel-Nasser, Michel Aflaq.	NEJS 166a. <b>Modern Jewish History to 1880</b>	Major themes will include: Enlightenment and Haskalah in eastern and western Europe, Hasidism, Emancipation and the argument for and against Emancipation, Assimilation and the problem of the marginal Jew, the Science of Judaism, the development of denominationalism in Judaism.
	Ms. Haim		Mr. Reinhartz
NEJS 156b. <b>Man and the Gods: Mythology and Magic of the Ancient Near East</b>	An introduction to the Myth and Magic of the Ancient Near East. Special attention will be paid to how the myths express an understanding of the Gods and the world, and how magic deals with anxieties of human existence.	NEJS 166b. <b>Modern Jewish History 1880-1948</b>	Major themes will include: integration and assimilation, migration, nationalism, Zionism, non-Zionism, anti-Zionism, Diaspora nationalism, western and eastern Jewry in the period between the World Wars, the Holocaust and the establishment of the State of Israel.
	Mr. Abusch		Mr. Reinhartz
NEJS 157aR. <b>A History of Israel, 1948-Present</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 168a. <b>Topics in East European Jewish History</b>	An examination of the various facets of East European Jewish culture, values and way of life, as manifested in Jewish literature and folklore and in the social, political and religious movements and institutions of the period. Primary attention will be given to Jewish life in the Russian empire.
NEJS 158bR. <b>Biblical Prophecy: Book of Jeremiah</b>	A study of the Hebrew text of the book of Jeremiah with emphasis on the role of prophecy and the literary forms and theological issues with which the prophet deals.		Mr. Fishman
	Mr. Fishbane	NEJS 169aR. <b>The Destruction of European Jewry</b>	The function of anti-Semitism in the comparative history and politics of Nazism; the Holocaust organization and the victims' responses; allied policies and Western reactions; post-war punishment and reparations. Interdisciplinary approaches to historical sociology and legal philosophy will be applied.
NEJS 160a. <b>The Emergence of the American Jewish Pattern, 1654-1967</b>	Survey of American Jewish history from the earliest settlement to the present. The emergence of the institutions, ideologies, life styles and cultural norms which constitute the American Jewish pattern.		Mr. Jick
	Mr. Jick	NEJS 171b. <b>Trends and Values in Yiddish Literature</b>	A study (in English) of the major lines of development from the folk literature of the sixteenth century to the contemporary short story, novel, essay and poem.
NEJS 161a. <b>American Jewish Life</b>	A survey of contemporary American Jewish life with special emphasis on the diverse forms of Jewish identification found in American Jewry. Topics include Reform, Conservative, and Orthodox Judaism; Jewish family life including intermarriage; and the relationship of Jews to the general society and to other ethnic groups.		Mr. Fishman
	Mr. Sklare	NEJS 174b. <i>Pirkei Avot — The Sayings of the Fathers: In Its Historical Setting</i>	<input type="checkbox"/> Not offered 1985-1986
NEJS 163a. <b>The Sociology of the American Jew</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 175a. <b>History of Zionism</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 164b. <b>The Sociology of the American Jewish Community</b>	The role of the sub-community in American society; Jewish communal services in medieval and modern times; contemporary American Jewish communal forms; religion, community relations, overseas aid, social welfare and relationship with Israel.	NEJS 177a. <b>Agnon and His Contemporaries: Hebrew Literature in Translation</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Sklare		

NEJS 182a. <b>Introduction to Jewish Bibliography</b>	The aim of the course is to acquaint students in the various fields of Judaic studies with the general bibliographic tools and the bibliographies in the major sub-fields. This course will concentrate on general Judaica/Hebraica bibliographies and on subject bibliographies in such fields as Jewish history, Jewish philosophy, Hebrew language and literature, anti-Semitism, Holocaust studies, etc.	NEJS 207b. <b>Akkadian Religious Texts: Incantations, Magical Rituals, Medical Prescriptions</b>	Mr. Abusch
	Mr. Cutter	NEJS 215b. <b>Topics in American Jewish Communal Organization</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 182aR. <b>Introduction to Jewish Bibliography</b>	See NEJS 182a. Mr. Cutter	NEJS 219b. <b>Sumerian Historical Inscriptions</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 187bR. <b>Biblical Images, Motifs and Ideas in Modern Jewish Poetry</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 223a. <b>The Bible and Its Ancient Interpreters</b>	Mr. Fishbane
NEJS 201a. <b>The Syntax of Pre-Hellenistic Literary Hebrew</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 223b. <b>Readings in the Dead Sea Scrolls</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 202. <b>Ancient Syria</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 225b. <b>North-West Semitic Inscriptions</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 204a. <b>Introduction to Akkadian</b>	Introduction to Akkadian grammar and lexicon and to Cuneiform script. This course is for beginning students of Akkadian. No prerequisites. Mr. Abusch	NEJS 227a. <b>Seminar in Book of Chronicles</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 205a. <b>Akkadian Texts Relating to Biblical Literature: Myths and Epics</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 230a. <b>Seminar in Medieval Jewish Philosophy</b>	Mr. Ivry
NEJS 205b. <b>Akkadian Texts Relating to Biblical Literature: Religious Texts</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 230b. <b>Seminar in Medieval Jewish Philosophy</b>	Mr. Ivry
NEJS 206. <b>Seminar in Advanced Akkadian Literary Texts: Myths, Epics, Hymns</b>	<input type="checkbox"/> Not offered 1985-1986	NEJS 232a. <b>Seminar in Modern Jewish Philosophy</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 207a. <b>Akkadian Religious Texts: Hymns and Prayers</b>	Mr. Abusch	NEJS 234aR. <b>Seminar in Late Medieval Jewish Philosophy</b>	<input type="checkbox"/> Not offered 1985-1986
		NEJS 238a. <b>Major Trends in Modern Hebrew Literature</b>	<input type="checkbox"/> Not offered 1985-1986
NEJS 244b. <b>Seminar on Religion and Nationalism in the Middle East</b>	This seminar will deal with issues related to the role of religion in the processes of nation- and state-building and the formulation of national ideology. Each year a different topic will be selected for close examination.	Mr. Kedourie	

NEJS 258b. <b>Seminar on Modern Jewish History and Historiography</b>	<input type="checkbox"/> Not offered 1985-1986	323a and b. <b>Readings in Jewish Thought</b> Mr. Fox
NEJS 259a and b. <b>Topics on Zionism</b>	<input type="checkbox"/> Not offered 1985-1986	326a and b. <b>Readings in Biblical Literature</b> Mr. Fishbane
NEJS 260a. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Ancient and Medieval</b>	<input type="checkbox"/> Not offered 1985-1986	327a and b. <b>Readings in Ancient Near Eastern Civilizations</b> Mr. Young
NEJS 260b. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Modern</b>	<input type="checkbox"/> Not offered 1985-1986	328a and b. <b>Readings in Ancient Near Eastern Languages</b> Mr. Young
NEJS 260b. <b>Seminar on the Philosophical Foundations of Jewish Ethics: Modern</b>	<input type="checkbox"/> Not offered 1985-1986	330a and b. <b>Readings in the Sociology of the Jewish Community</b> Mr. Sklare
NEJS 266aR. <b>Topics in Biblical Religion</b>	<input type="checkbox"/> Not offered 1985-1986	331a and b. <b>Readings in Yiddish Literature</b> Mr. Szulkin
NEJS 272aR. <b>History of the Jews of Venice, I</b>	Mr. Ravid	332a and b. <b>Readings in American Jewish History</b> Mr. Jick
NEJS 272b. <b>History of the Jews in Venice II</b>	<input type="checkbox"/> Not offered 1985-1986	333a and b. <b>Readings in the History of the Jews in Europe to 1800</b> Mr. Ravid
NEJS 287b. <b>Methods in Jewish Community Research</b>	See JCS 287b. Mr. Tobin	334a and b. <b>Readings in Modern Jewish History</b> Mr. Reinhartz
NEJS 317-340. <b>Reading Courses</b>	Special tutorials for advanced graduate students.	335a and b. <b>Readings in East European Jewish History</b> Staff
317a and b. <b>Readings in Assyriology</b>	Mr. Abusch	337a and b. <b>Readings in Talmudic and Midrashic Literature</b> Mr. Kimelman
318a and b. <b>Readings in Medieval Jewish Philosophy</b>	Mr. Ivry	338a and b. <b>Readings in Second Commonwealth and Hellenistic Judaism</b> Mr. Katchen
319a and b. <b>Readings in Indo-Arabic Literature</b>	Mr. Ivry	339a and b. <b>Readings in Ottoman History and Civilization</b> Mr. Levy
320a and b. <b>Readings in Islamic Philosophy</b>	Mr. Ivry	340a and b. <b>Readings in Modern Middle Eastern History</b> Mr. Levy
321a and b. <b>Readings in Medieval Jewish Philosophy</b>	Mr. Fox	NEJS 401-411. <b>Dissertation Colloquium</b> Independent research for the Ph.D. degree.
322a and b. <b>Readings in Modern Jewish Philosophy</b>	Mr. Fox	401. Mr. Abusch 407. Mr. Young 402. Mr. Fox 408. Mr. Jick 403. Mr. Ivry 409. Mr. Fishbane 404. Mr. Reinhartz 410. Mr. Ravid 406. Mr. Sklare 411. Mr. Levy

# The Hornstein Program in Jewish Communal Service

## Objectives

The two-year program in Jewish Communal Service, leading to the Master of Arts degree, integrates Jewish studies and professional training, preparing students for positions in a variety of settings in the Jewish community, including federations, community centers, Hillel foundations, schools and other communal organizations.

A special one-year master's program is offered for students with graduate degrees in social work or Jewish studies. In addition, part-time study is permitted, but students must complete the program in no more than four years.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Hornstein Program in Jewish Communal Service. In addition, applicants are expected to submit results of either the Graduate Record Examination or the Miller Analogies Test, a statement which describes the applicant's Jewish training and background and future plans, and a sample of written material. Applicants are expected to arrange for a personal interview.

## Faculty

Associate Professor **Bernard Reisman**, Director: American Jewish communal studies.

Professor **Marvin Fox**: Jewish philosophy. Rabbinic thought. Modern Jewish thought.

Professor **Marshall Sklare**: Sociology of the Jewish community.

Visiting Professor **Walter Ackerman**: Jewish education.

Visiting Professor **Irving Bernstein**: Jewish communal service.

Visiting Professor **Barry Chazan**: Jewish education.

Associate Professor **Leon A. Jick**: American Jewish history.

Associate Professor **Reuven Kimelman**: Talmud and rabbinic literature.

Associate Professor **Gary A. Tobin**: Jewish community planning and research.

Assistant Professor **Jay Brodbar-Nemzer**: Contemporary Jewish family.

Assistant Professor **Jonathan S. Woocher**: Contemporary Judaism. Jewish identity.

Lecturer with rank of Assistant Professor **Lois G. Swack**: Field work. Jewish communal service.

Lecturer **Joshua Elkin**: Jewish education.

Lecturer **Daniel Margolis**: Jewish education.

Lecturer **Susan Shevitz**: Jewish education.

Lecturer **Bennett Solomon**: Jewish education.

Lecturer **Lawrence Sternberg**: Jewish community relations.

See the Department of Near Eastern and Judaic Studies and the Heller School catalog for other faculty and course offerings.

## Degree Requirements

### Master of Arts

Students in the Jewish Communal Service program may concentrate in one of the following three areas:

1. Group Work and Community Organization.
2. Management.
3. Jewish Education.

### Program of Study

Students are expected to complete a minimum of 14 courses, including study in the following areas: professional studies, contemporary Jewish studies and classical Jewish studies. Students may take courses at other Boston area graduate schools (Boston University and Boston College).

During intersession between the first and second terms of the first year, first-year students are expected to participate in 1) the **Betty Starr Colloquium on National Jewish Communal Organizations**, a two-day field trip for first-year students to visit national offices and meet with the staffs of major Jewish communal organizations in New York City, in order to examine their activities and

Residence Requirement.

Language Requirement.

roles in the American Jewish communal system; all students will participate in 2) the **Summer N. Milender Seminar in Jewish Communal Leadership**, led by a prominent leader in Jewish communal service for several days of discussion and workshops on campus on aspects of Jewish communal leadership; and 3) **Management and Social Work Modules**, one week mini-courses dealing with specific practical skills and issues on an intensive basis. These are offered by the Management of Human Services Program of the Florence Heller School and other area schools of social work. All Jewish Communal Service concentrators are required to take one management module in the second year.

The residence requirement for this program is two years of full-time study or the equivalent in part-time study.

Fluency in Hebrew is required at a level comparable to two years of college training. Students not meeting this requirement upon entrance are required to enroll in courses in Hebrew language — not for credit.

Summer Study in Israel.	The <b>Joseph and Esther Foster Seminar in Israel on Contemporary Jewish Life</b> is sponsored in cooperation with the Center for Jewish Education in the Diaspora of the Hebrew University and is required of all students at the completion of their first year of study. The 4½-week program, held during May and June, is a combination of classes and field visits designed to provide an in-depth analysis of Israel. Costs for the Israel Seminar are partially subsidized by scholarships provided by the Joseph and Esther Foster Fund. Students are expected to pay the remainder of the cost.	Fieldwork/Internship.	Students have two fieldwork experiences in a Boston area-Jewish educational or communal service organization. In the first year, fieldwork is 15 hours a week; in the second year, 20 hours. This schedule requires students to be in residence through the end of May and to plan for a shorter winter intersession than indicated in the University's Academic Calendar.
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## Courses of Instruction

JCS 53bR. <b>Introduction to Talmud</b>	<input type="checkbox"/> Not offered 1985-1986	JCS 127b. <b>The Jewish Liturgy</b>	See NEJS 127b. Mr. Kimelman
JCS 119bR. <b>Curriculum/Philosophy of Jewish Education</b>	<input type="checkbox"/> Not offered 1985-1986	JCS 142a. <b>An Introduction to Post-Biblical Jewish History</b>	See NEJS 142a. Mr. Ravid
JCS 120b. <b>Intermediate Talmud</b>	See NEJS 120b. Mr. Kimelman	JCS 143b. <b>Educational Leadership: Administration and Supervision</b>	<input type="checkbox"/> Not offered 1985-1986
JCS 121a. <b>Jewish Education: An American Jewish Enterprise</b>	This introductory course will examine various aspects of development of Jewish education in America, the types of Jewish schooling, organizational structures, politics, funding and communal dimensions of Jewish education. Questions of demographic shifts, the emergence of new educational settings, outreach to different populations and the effects of federal policies and international trends on Jewish educational schools will be explored.  Mr. Ackerman	JCS 146b. <b>Judaism and Islam</b>	See NEJS 146b. Mr. Ivry
JCS 122b. <b>Content and Curriculum Choices for Teaching Siddur</b>	This course will examine the relationship between subject matter and curriculum as mediated by the philosophical and ideological premises of Jewish groups. Specific methodologies, drawn from several disciplines, will be analyzed. Students will explore the implications of curricular and methodological choices in Jewish educational settings.  Mr. Chazan	JCS 150a. <b>The Jewish Contribution to German Literature</b>	<input type="checkbox"/> Not offered 1985-1986
JCS 125bR. <b>Midrashic Literature: Sifre Denteronomy</b>	See NEJS 125bR.  Mr. Kimelman	JCS 157aR. <b>A History of Israel, 1948-Present</b>	<input type="checkbox"/> Not offered 1985-1986
		JCS 159b. <b>Administration in Jewish Education</b>	<input type="checkbox"/> Not offered 1985-1986
		JCS 160a. <b>The Emergence of the American Jewish Pattern, 1654-1967</b>	See NEJS 160a. Mr. Jick
		JCS 161a. <b>American Jewish Life and Institutions</b>	See NEJS 161a. Mr. Sklare

JCS 164b. <b>The Sociology of the American Jew</b>	See NEJS 164b. Mr. Sklare	JCS 208a. <b>Contemporary Jewish Identity</b>	An examination of the dynamics of Jewish identity: the changing historic and social forces which shape Jewish identity, resulting in a range of definitions of Jewishness in the contemporary era. Attention is addressed to the process by which current social institutions such as the family, Jewish education and Jewish communal programs seek to influence Jewish identity. Mr. Woocher
JCS 166a. <b>Modern Jewish History to 1880</b>	See NEJS 166a. Mr. Reinhartz		
JCS 166b. <b>Modern Jewish History 1880-1948</b>	See NEJS 166b. Mr. Reinhartz		
JCS 169aR. <b>The Destruction of European Jewry</b>	See NEJS 169aR. Mr. Jick	JCS 209a. <b>Issues in Jewish Communal Leadership and Policy</b>	An introduction to basic skills and methods employed in current research on Jewish communal life. Significant examples of recent research will be examined and students will undertake small-scale research projects. Emphasis will be placed on how research and a knowledge of research tools and methods can enhance professional functioning and communal programs. Mr. Woocher
JCS 175a. <b>History of Zionism</b>	<input type="checkbox"/> Not offered 1985-1986		
JCS 183a. <b>Contemporary Jewish Politics</b>	<input type="checkbox"/> Not offered 1985-1986	JCS 212aR. <b>Methods and Skills in Jewish Communal Research and Evaluation</b>	<input type="checkbox"/> Not offered 1985-1986
JCS 205a. <b>Theory and Practice of Jewish Communal Service</b>	An introduction to the field of Jewish communal service. This includes a history of Jewish communal services in this country, their relationship to Jewish traditions and to developments in the field of social welfare; the settings in which Jewish services are offered and the factors making for effective organizational performance. Mr. Reisman	JCS 213b. <b>The Jewish Tradition and Jewish Communal Service</b>	An examination of the role which traditional Jewish values can play in shaping the perspective and work of the Jewish communal professional. The focus will be on how Jewish concepts—the sanctity of life, human dignity, community, <i>tzedakah</i> —can inform the ways in which communal workers think about and deal with critical issues affecting Jewish individuals, families and communities. Mr. Woocher
JCS 205b. <b>Theory and Practice of Jewish Communal Service.</b>	The focus of the course is developing a systematic approach to professional performance in Jewish communal organizations. This involves an analysis of contemporary societal developments which affect Jewish individuals and families. This analysis serves as the point of departure for assessing current programs and policies of Jewish communal agencies and for developing new programs to meet changing needs. Mr. Reisman	JCS 215b. <b>Topics in American Jewish Communal Organization</b>	<input type="checkbox"/> Not offered 1985-1986
JCS 206b. <b>Principles of Informal Education and Small Groups in Jewish Communal Service</b>	This course has two components: 1) principles of informal, experiential education as these are applicable in Jewish communal work and 2) principles of small group dynamics — leadership, group processes, individual dynamics and self-awareness of the participants as it relates to group leadership roles in Jewish communal life. Mr. Reisman	JCS 220b. <b>Introduction to Jewish Community Relations</b>	An introduction to the field of Jewish community relations in the United States. This includes a history of relations between Jews and their host societies; a review of the development of modern defense organizations in the Jewish community; an analysis of the development of American Jewish community relations organizations and their constituencies; and an in-depth examination of the issues addressed and methods used by community relations agencies. Mr. Sternberg
JCS 207a. <b>The History and Ideology of the Jewish Community</b>	<input type="checkbox"/> Not offered 1985-1986		

<b>JCS 230b. Fundraising As a Practical Tool for Personal and Communal Growth</b>	<p>This course will deal with fundraising, administration and social policy in Jewish communal life. Subjects to be addressed include: fundraising; conflict; leadership; solicitation techniques; motivation and training of leadership; communication — speaking, writing and audio-visual; use/misuse of time; planning and strategy.</p> <p>Mr. Bernstein</p>	<b>JCS 251. Field Methods Seminar in Jewish Education II</b>	<p>Limited to second year students.</p> <p>Ms. Shevitz</p>
<b>JCS 242b. The American Jewish Community and the Jewish Family</b>	<p>The Jewish family is considered an important institution in the continued viability of the American Jewish community. Current trends in the Jewish American family will be explored through the use of sociological data and concepts. The Jewish community's perception of problems in the family and communal responses and policies will also be examined.</p> <p>Mr. Brodbar-Nemzer</p>	<b>JCS 287b. Methods in Jewish Community Research</b>	<p>This seminar is designed to acquaint both researchers and pre-professionals in Jewish communal service with basic research techniques. Students will receive "hands-on" experience in conducting research by participating in projects currently sponsored by the Center for Modern Jewish Studies, or by developing their own projects based on scholarly interest or field placements. The course will include readings on issues pertaining to Jewish communal research and will focus on the relationship between research methods and planning applications in Jewish communal agencies.</p> <p>Mr. Tobin</p>
<b>JCS 243. Field Methods in Jewish Communal Service</b>	<p>Students are placed in selected Jewish communal organizations during the first year for two days a week of field practice. They receive individual supervision from an agency field supervisor, meet every week with faculty for a group seminar and for periodic individual conferences.</p> <p>Ms. Swack</p>	<b>Seminar on Contemporary Jewish Issues</b>	<p>During the fall semester the seminar will meet every Wednesday from 11 a.m. to 1 p.m. During the spring semester, the seminar will meet alternate Wednesdays. <i>Non-credit.</i></p>
<b>JCS 249. Field Methods Seminar in Jewish Education I</b>	<p>Limited to first year students.</p> <p>Ms. Shevitz</p>	<b>JCS-SS 350. Foster Seminar in Israel on Contemporary Jewish Issues</b>	<p>Offered in cooperation with the Center for Jewish Education in the Diaspora at The Hebrew University.</p>
<b>JCS 250. Field Methods in Jewish Communal Service and Jewish Education</b>	<p>Same as JCS 243, except students are in field work for three days a week.</p> <p>Ms. Swack and Mr. Reisman</p>		

# Institute for Photobiology of Cells and Organelles

## Objectives

The graduate program of the Institute is designed to give students an understanding of the photobiology of cells and organelles as part of the fundamental nature of living processes, and to train them to undertake original research in these areas.

The Institute rarely admits a graduate student who desires a master's degree. Such candidates may, however, be admitted at the discretion of the faculty as exceptional cases. A Master of Arts degree may be granted on completion of a designated program to be arrived at after consultation with the graduate adviser.

## Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology or biochemistry at this institution. These are: general biology, genetics, cell physiology and biochemistry, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects but whose records are otherwise superior may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the Institute, graduate students will be advised and aided in planning their programs.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research.

## Faculty

Professor  
**Jerome A. Schiff,**  
Director:  
Plant biochemistry  
and physiology.  
Photo-control of  
intracellular develop-  
ment. Sulphur  
metabolism.

Professor  
**Martin Gibbs;**  
Photosynthesis and  
plant physiology.

## Degree Requirements

At least one year of teaching experience is required of all degree candidates.

## Master of Arts Program of Study.

The program leading to the M.A. in biology focuses primarily on the research capability of the student. Specifically, the primary requirement for the degree is the completion of a thesis based on original laboratory work which is acceptable to the Institute. In general, the preparation for an original research problem will necessitate the enrollment of a student in course work. The specific number and types of courses will vary, depending on the ultimate research problem, and will be prescribed by

the Institute. The candidate must, however, complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of eight half-courses of approved study.

By the end of the first year, each graduate student will choose a specific field of interest and will apply to the Director of the Institute for a permanent adviser to be assigned by the Institute. This adviser will serve as the chairman of a committee which will advise the student on courses to be taken and guide him or her throughout the thesis problem.

There is no foreign language requirement for the master's degree.

At the discretion of the student's advisory committee, a qualifying or comprehensive examination may be required.

Language  
Requirement.

Qualifying  
Examination.

**Doctor of Philosophy****Program of Study.**

All students are expected to obtain a knowledge of the principles and techniques of the areas of: biochemistry and physiology (with emphasis on metabolism); genetics, regulation, DNA and repair; development; photobiology and molecular structure, structure in relation to function, photochemistry, microbiology and evolution (the five proposition areas of the qualifying examination). Proficiency in those areas of chemistry and physics related to photobiology is also expected. This knowledge will be acquired during the first two years through courses, seminars, reading, research rotations, etc. in preparation for the qualifying examination.

**Language Requirements.**

There is no foreign language requirement for the Ph.D. degree.

**Research Rotation.**

Students may rotate to any laboratory in the Institute on acceptance by the professor involved. A student should stay long enough on each rotation to complete a piece of research and to learn the techniques involved. Research rotations will ordinarily be completed during the first year.

When the student completes his or her rotations, he or she petitions the Institute, with the consent of the professor concerned, to have a permanent adviser appointed. When the permanent adviser has been approved, this adviser will sign program cards for the student, advise him or her on courses, convene

**Qualifying Examination.**

the proposition and examining committees, supervise the thesis and ultimately convene the thesis examining committee which is the final examination for the Ph.D. degree.

Ordinarily this examination should be completed before the active dissertation work is initiated. The student's adviser will appoint, with the consent of the Institute, two other faculty members to serve with him or her in the five core areas mentioned above with no more than one proposition in any one area. Each proposition should be a proposal or hypothesis subject to debate. The proper form in which the propositions are to be submitted will be designed by the Institute. The student will be examined orally on at least three of the acceptable propositions by the three members of the propositions committee plus additional faculty members as needed.

**Admission to Candidacy.**

To be admitted to candidacy, the student must have (a) passed the qualifying examination, (b) shown a capacity for independent research, (c) been accepted by a graduate adviser.

**Dissertation and Defense.**

Each student will conduct an original investigation. After admission to candidacy, a dissertation committee will be appointed by the Director of the Institute. It will consist of at least three staff members headed by the student's permanent adviser. This committee will guide his or her research activities toward the doctoral dissertation, and will read and evaluate the completed dissertation. The candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation.

**Courses of Instruction****Photobiology 100a. Photobiology of Cells and Organelles**

Basic photobiology including an introduction to the physical and chemical concepts involved, the influence of the changing solar spectrum on the course of evolution, the catalytic uses of light by living systems including photoperception (phototropism, phototaxis and the evolution of visual systems), photomorphogenesis (blue light and re-far red systems), photoinduced rhythms, and other biological responses to light, energy storage including the photosynthetic apparatus, membranes and reaction centers, photosynthetic electron transport and phosphorylation, photosynthetic carbon metabolism and photoreduction, utilization of assimilatory power in reductive reactions, the deleterious effects of light including photodynamic action, photoprotection, erythema effects, ultraviolet damage to the genetic material and its photorepair and the evolution of repair systems and medical applications.

Prerequisites: Cell biology or its equivalent. Permission of the instructor.

Messrs. Gibbs, Schiff and Staff

**Photobiology 245a. Selected Topics in Plant Metabolism**

A discussion of those areas of physiology and biochemistry to which plants lend themselves as experimental objects. Conspicuous examples are photosynthesis, photomorphogenesis,

nitrogen fixation, and the biosynthesis of natural products such as anthocyanins, flavonoids, isoprenoids, phenols, terpenes, etc. Prerequisite: Permission of the instructor.

Mr. Gibbs

**Photobiology 245b. Comparative Physiology and Biochemistry of Plants**

A continuation of Photobiology 245a. Prerequisite: Permission of the instructor.

Mr. Schiff

**Photobiology 406. Photobiology and Plant Physiology**

Mr. Schiff

**Photobiology 412. Photobiocchemistry and Plant Metabolism**

Mr. Gibbs

**Institute Journal Clubs**

There will be a number of informal Journal Clubs which deal with various topics of concern to the various specialties. These will meet regularly under the auspices of the staff. Students, depending upon their individual needs, may be required to attend.

# Physics

## Objectives

The graduate program in physics is designed to equip students with a broad understanding of major fields of physics and to train them to carry out independent, original research. This objective is to be attained by formal coursework and supervised research projects. As the number of students who are accepted is limited, a close contact between students and faculty is maintained, permitting close supervision and guidance of each student.

Advanced degrees will be granted upon evidence of the student's knowledge, understanding and proficiency in classical and modern physics. The satisfactory completion of advanced courses will constitute partial fulfillment of these requirements. Research upon which theses may be based, with residence at Brandeis, may be carried out in the following areas:

### Theoretical Physics:

Quantum theory of fields; elementary particle physics; general theory of relativity; quantum statistical mechanics; thermodynamics of irreversible processes; quantum theory of the solid state; critical phenomena and phase transitions.

### Experimental Physics:

High energy experimental physics; atomic and molecular physics; solid state physics; nuclear magnetic resonance; phase transition phenomena; liquid crystal physics; light scattering; positron physics; radio astronomy; biophysical structure analysis.

## Admission

As a rule, only candidates for the Ph.D. degree will be accepted. The general requirements for admission to the Graduate School apply to candidates for admission to the graduate area in physics. Admission to advanced courses in physics will be granted following a conference with the student at entrance.

## Faculty

Professor  
**Marcus T. Grisaru:**  
 Chair:  
 Quantum field theory.  
 Elementary particles.  
 Supergravity.

Professor  
**Stephan Berko:**  
 Positron interactions  
 in solids. Positronium  
 physics.

Professor  
**Donald L. D. Caspar**  
 (Rosenstiel Basic  
 Medical Sciences  
 Research Center);  
 Structural molecular  
 biology. X-ray  
 crystallography.

Professor  
**Stanley A. Deser:**  
 Quantum theory of  
 fields. Elementary  
 particles.  
 Supergravity.

Professor  
**Jack S. Goldstein:**  
 Astrophysics.

Professor  
**Eugene P. Gross:**  
 Quantum theory of  
 multiparticle systems.  
 Quantum theory of  
 solids. Kinetic theory.  
 Plasma physics.

Professor  
**Peter Heller:**  
 Solid state  
 experimental physics.  
 Phase transitions.  
 Spin systems.

Professor  
**Lawrence E. Kirsch**  
 (Director, Feldberg  
 Computer Center):  
 High energy  
 experimental physics.

Professor  
**Robert B. Meyer:**  
 Liquid crystal physics.

Professor  
**Hugh N. Pendleton:**  
 Mathematical physics.  
 Supergravity.

Professor  
**Alfred G. Redfield**  
 (Rosenstiel Basic  
 Medical Sciences  
 Research Center):  
 Magnetic resonance.  
 Biophysics.

Professor  
**Howard J. Schnitzer:**  
 Elementary particle  
 theory. Quantum  
 theory of fields.

Professor  
**Silvan S. Schweber:**  
 Quantum theory of  
 measurement. History  
 of science.

Associate Professor  
**Laurence F. Abbott:**  
 Elementary particle  
 theory. Quantum  
 theory of fields.

Associate Professor  
**James R. Bensinger:**  
 Experimental high  
 energy physics.

Associate Professor  
**Craig A. Blocker:**  
 Experimental high  
 energy physics.

Associate Professor  
**Karl F. Canter:**  
 Experimental low  
 energy positron  
 physics in atomic and  
 many-body systems.

Associate Professor  
**Robert V. Lange:**  
 Biophysics. Visual  
 perception.

Associate Professor  
**David H. Roberts:**  
 Extragalactic  
 astronomy.

Adjunct Associate  
 Professor  
**John F. C. Wardle:**  
 Radio astronomy.  
 Cosmology.

Associate Professor  
**Hermann F.  
 Wellenstein:**  
 Experimental atomic  
 physics. Electronic  
 impact spectroscopy.

Adjunct Assistant  
 Professor  
**Rudolf Oldenbourg:**  
 Physics of liquid  
 crystals and biological  
 materials.

Assistant Professor  
**Eric S. Jensen:**  
 Experimental solid  
 state physics.

Assistant Professor  
**Takashi Odagaki:**  
 Theoretical solid state  
 physics.

Assistant Professor  
**Leigh Sneddon:**  
 Theoretical solid state  
 physics.

Adjunct Assistant  
 Professor  
**Rudolf Oldenbourg:**  
 Physics of liquid  
 crystals and biological  
 materials.

**Degree Requirements****Master of Arts****Program of Study.**

The requirements for advanced degrees in the Department of Physics are as follows:

1. One year in residence as a full-time student.
2. Six semester courses of advanced work in physics. A thesis on an approved topic may be accepted in place of a semester course.
3. Satisfactory performance in the Qualifying Examination.

**Doctor of Philosophy**

1. Two years in residence as a full-time student.
2. Nine semester courses of advanced work in physics.
3. Outstanding performance on the qualifying examination.
4. Passing of an advanced examination in topics related to the student's thesis subject. This examination will normally be taken after preparatory studies in the prospective field of research.
5. Doctoral thesis and final oral examination.

**Program of Study and Course Requirements.**

Normally, first-year graduate students will elect from the 100 series; second-year students from the 200 series. To obtain credit toward residence for a graduate course taken at Brandeis, a student must achieve a final grade of "A" or "B" in that course. A student who obtains a grade lower than "B" or an "Incomplete" in two or more courses in any term will not be allowed to continue his or her studies beyond the end of that academic year. (A course from which students withdraw after midterm will be considered as "Incomplete.")

Students may obtain credit for advanced courses taken at another institution provided their level corresponds to the level of graduate courses at Brandeis and that an honor grade in these courses was obtained.

**Residence Requirements.**

A student may obtain up to one year's residence credit toward the Ph.D. requirements for graduate studies taken at another institution. No transfer residence credit will be allowed toward fulfillment of the master's requirements.

**Teaching.**

It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

**Language Requirement.**

There is no foreign language requirement for either the master's or the doctoral degrees.

**Qualifying Examinations.**

In the first year, Quantum Mechanics (Physics 102) and Electromagnetic Theory (Physics 101) must be taken by all students unless they are exempted. All students, whether exempted or not, must take the final examinations in these courses (both fall and spring semesters), which also serve as the qualifying examination although the course itself is not required. An oral examination given at the end of the first year completes the qualification requirements.

**Course Requirements**

At least two graduate courses, with final examinations in the specialized courses listed below, must be taken during the first three semesters: (1) Statistical Physics, (2) Solid State Physics, (3) Biophysics, (4) Elementary Particles, (5) Astrophysics, (6) Experimental Physics (Physics 109), (7) General Relativity. Note, however, that not all of the above courses will necessarily be given each year.

One semester of Advanced Quantum Mechanics (Physics 202a) will be a required course for all students.

**Advanced Examinations.**

Advanced examinations will be in topics partitioned in the several areas of research interests of faculty. Faculty members working in each general area will function as a committee for this purpose and will provide information about their work through informal discussions and seminars. The advanced examination requirement consists of a written paper and an oral examination. While no original research by the student is expected, it is hoped that a proposal for a possible thesis topic will emerge. It is generally expected that the candidates will take the advanced examination in the field they wish to pursue for their Ph.D. thesis, although there may be exceptions.

**Thesis Research.**

After passing the advanced examination, the student begins work with an adviser who guides his or her research program. The adviser should be a member of the Brandeis faculty but in special circumstances may be a physicist associated with another research institution. The graduate committee of the physics faculty will appoint a dissertation committee to supervise the student's research. The student's dissertation adviser will be the chair of the dissertation committee. The committee will recommend the student for admission to candidacy for the doctorate on recommendation of his or her adviser.

**Dissertation and Final Oral Examination.**

The doctoral dissertation must represent a piece of research of a standard acceptable to the faculty committee appointed for each Ph.D. candidate. The final oral examination, or defense, is an examination in which the student will be asked questions pertaining to the dissertation research.

## Courses of Instruction

Physics 101a. <b>Electromagnetic Theory I</b>	Electrostatics, magnetostatics, boundary value problems. Mr. Schnitzer	Physics 107b. <b>Particle Physics</b>	<input type="checkbox"/> Not offered 1985-1986
Physics 101b. <b>Electromagnetic Theory II</b>	Maxwell's equations. Quasi-stationary phenomena. Radiation. Mr. Schnitzer	Physics 108b. <b>Introduction to Astrophysics</b>	<input type="checkbox"/> Not offered 1985-1986
Physics 102a. <b>Quantum Mechanics I</b>	Nonrelativistic quantum theory and its application to simple systems; the harmonic oscillator, the hydrogen atom. Perturbation theory. Mr. Gross	Physics 109a. <b>Advanced Laboratory I</b>	Methods and techniques of experimental research. Mr. Redfield
Physics 102b. <b>Quantum Mechanics II</b>	Systems of identical particles. Coupling of angular moments. Scattering theory. Time-dependent perturbation theory. Semi-classical analysis of interaction of atomic systems and electromagnetic waves. Mr. Gross	Physics 109b. <b>Advanced Laboratory II</b>	Methods and techniques of experimental work. Mr. Canter
Physics 103aR. <b>Statistical Physics</b>	Review of thermodynamics and probability theory. Statistical postulates and ensembles. Behavior of non-ideal gases. Correlation functions, fluctuation theorems, Weiner-Khintchine theorem, generalized Nyquist relations. Mean-field theories of phase transitions; effect of fluctuations. Mr. Odagaki	Physics 110aR. <b>Mathematical Physics</b>	Complex variables; Fourier and Laplace transforms; special functions, partial differential equations; Hilbert space and spectral theory. Mr. Goldstein
Physics 104a. <b>Solid State Physics I</b>	The formal description of periodic systems. The vibrational and electronic properties of solids. Band structure and the Fermi surface. The transport and optical properties of solids. Mr. Berko	Physics 113a. <b>First Year Tutorial</b>	A review of physics from the most elementary topics to those treated in other first-year graduate courses. The environment for an oral qualifying examination is reproduced in the tutorial. Mr. Pendleton
Physics 104b. <b>Solid State Physics II</b>	Thermal, electric and magnetic properties of solids. Lattice vibrations. Specific heat. Structural probes. Fermi surfaces. Selected topics in superconductivity and ferromagnetism. Mr. Sneddon	Physics 113b. <b>Second Year Tutorial</b>	A continuation of Physics 113a. Mr. Gross
Physics 107a. <b>Experimental Particle Physics</b>	The principles upon which experimental atomic, nuclear, and particle physics are based. Subjects discussed include: relativistic kinematics, interactions of energetic particles in matter, accelerators and beams, particle detectors, and computer-based analysis techniques. Mr. Blocker	Physics 137a. <b>Science in the Nineteenth Century</b>	<input type="checkbox"/> Not offered 1985-1986
		Physics 137bR. <b>Topics in the History of Twentieth Century Physics</b>	The course will explore developments in physics during the twentieth century from a historical perspective paying particular attention to the wider context in which these advances took place. Mr. Schweber
		Physics 152b. <b>Biological Assembly</b>	See Biophysics 152b. Mr. Caspar
		Physics 200aR. <b>General Relativity I</b>	<input type="checkbox"/> Not offered 1985-1986
		Physics 200b. <b>General Relativity II</b>	<input type="checkbox"/> Not offered 1985-1986
		Physics 202a. <b>Advanced Quantum Mechanics</b>	Nonrelativistic field theory and relativistic quantum mechanics. Graphical version of time-dependent perturbation theory. Application of group theory to quantum mechanics. Mr. Deser

Physics 202b. <b>Relativistic Quantum Field Theory</b>	Mr. Deser	Physics 302a and b. <b>Elementary Particles Seminar</b>	Seminar covers latest advances in elementary particle physics. Will include student presentations and invited speakers.
Physics 204a. <b>Topics in Condensed Matter Theory</b>	Mr. Sneddon	Physics 303a and b. <b>Positron Physics Seminar</b>	Fall Term: Mr. Bensinger Spring Term: Mr. Kirsch
Physics 204b. <b>Topics in Condensed Matter Theory</b>	<input type="checkbox"/> Not offered 1985-1986	Physics 303a and b. <b>Positron Physics Seminar</b>	Seminar covers latest developments in atomic, solid state and surface physics as studied using positron techniques. Will include student presentations and invited speakers.
Physics 207a. <b>Plasma Physics</b>	<input type="checkbox"/> Not offered 1985-1986	Physics 304a. <b>Solid State Seminar I</b>	Fall Term: Mr. Berko Spring Term: Mr. Canter
Physics 208a. <b>Cosmology</b>	<input type="checkbox"/> Not offered 1985-1986	Physics 304a. <b>Solid State Seminar I</b>	<input type="checkbox"/> Not offered 1985-1986
Physics 209a. <b>Laboratory Seminar I</b>	Analysis of some important recent experiments.  To be announced	Physics 305a and b. <b>Liquid Crystal Physics Seminar</b>	This seminar studies recent advances in the physics of liquid crystals and related systems such as microemulsions, colloidal suspensions, and polymer solutions.
Physics 209b. <b>Laboratory Seminar II</b>	Analysis of some important recent experiments.  To be announced	Physics 306a and b. <b>Theoretical Solid State Physics Seminar</b>	Fall Term: Mr. Meyer Spring Term: Mr. Oldenbourg
Physics 210a and b. <b>Theoretical Seminar I, II</b>	Analysis of important recent developments in theoretical physics.  Mr. Grisaru	Physics 311a. <b>Advanced Topics in Mathematical Physics</b>	<input type="checkbox"/> Not offered 1985-1986
Physics 211a. <b>Computational Physics</b>	Numerical differentiation and integration. Curve fittings. Numerical solution of elliptic, parabolic and hyperbolic differential equations. Molecular dynamics. Monte Carlo simulation. Monte Carlo renormalization group technique.  Mr. Odagaki	Research Courses	
Physics 213a and b. <b>Tutorial in Physics I, II</b>	Staff	Physics 405. <b>Experimental High Energy Physics</b>	Mr. Blocker
Physics 240b. <b>Seminar in Biophysical Research</b>	Mr. Caspar	Physics 406. <b>Experimental Elementary Particle Physics</b>	Mr. Bensinger
Physics 301a and b. <b>Astrophysics Seminar</b>	Advanced topics and current research in astrophysics will be discussed.  Fall Term: Mr. Roberts Spring Term: Mr. Wardle	Physics 407. <b>Experimental Elementary Particle Physics</b>	Mr. Kirsch
		Physics 408. <b>Theoretical Elementary Particle Physics</b>	Mr. Abbott
		Physics 409. <b>Theoretical Elementary Particle Physics</b>	Mr. Deser

Physics 410. <b>Theoretical Elementary Particle Physics</b>	Mr. Grisaru	Physics 421. <b>Relativity</b>	Mr. Deser
Physics 411. <b>Theoretical Elementary Particle Physics</b>	Mr. Pendleton	Physics 422. <b>Mathematical Physics</b>	Mr. Grisaru
Physics 412. <b>Theoretical Elementary Particle Physics</b>	Mr. Schnitzer	Physics 423. <b>Mathematical Physics</b>	Mr. Schweber
Physics 413. <b>Theoretical Elementary Particle Physics</b>	Mr. Schweber	Physics 424. <b>Mathematical Physics</b>	Mr. Pendleton
Physics 414. <b>Experimental Solid State Physics</b>	Mr. Berko	Physics 425. <b>Statistical Physics</b>	Mr. Gross
Physics 415. <b>Experimental Solid State Physics</b>	Mr. Canter	Physics 426. <b>Astrophysics</b>	Mr. Goldstein
Physics 416. <b>Experimental Solid State Physics</b>	Mr. Heller	Physics 427. <b>Astrophysics</b>	Mr. Roberts
Physics 417. <b>Experimental Solid State Physics</b>	Mr. Sneddon	Physics 428. <b>Astrophysics</b>	Mr. Wardle
Physics 418. <b>Experimental Solid State Physics</b>	Mr. Gross	Physics 429. <b>Structural Biology</b>	Mr. Casper
Physics 419. <b>Experimental Solid State Physics</b>	Mr. Lange	Physics 430. <b>Experimental Solid State Physics</b>	Mr. Jensen
Physics 420. <b>Experimental Solid State Physics</b>	Mr. Odagaki	Physics 432. <b>Experimental Atomic and Molecular Physics</b>	Mr. Wellenstein
		Physics 436. <b>Biophysics</b>	Mr. Redfield
		Physics 437. <b>Experimental Condensed Matter Physics</b>	Mr. Meyer

## Politics

### Objectives

The graduate program in Politics, leading to the degree of Doctor of Philosophy, emphasizes comprehensive professional training by stressing both the fundamentals of the discipline grounded in the study of political thought and institutions and the requirements of method and analytical skills.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Normally, the student's undergraduate training must be in a field of social sciences to be considered for admission to this program. Applicants are expected to take the Graduate Record Examination.

### Faculty

Professor **Robert J. Art**, Chair: International relations; American foreign policy.

Professor **Seyom Brown**: International relations; American foreign policy.

Professor **Donald Hindley**: Comparative politics; South East Asia; Latin American politics.

Professor **Mark Hullings**: Political theory.

Professor **Roy C. Macridis**: Comparative politics; Western Europe.

Professor **Ruth S. Morgenthau**: Comparative politics; Africa.

Professor **Peter Woll**: American politics; Administrative law.

Associate Professor **Jeffrey B. Abramson**: Political theory; Constitutional law.

Associate Professor **Martin A. Levin**: American politics; Urban politics.

Associate Professor **R. Shep Melnick**: American politics; Public law, and regulation.

Associate Professor **Susan M. Okin**: Political theory.

Associate Professor **Ralph Thaxton**: Comparative politics; Peasants and revolution.

Assistant Professor **Steven Burg**: Comparative politics; U.S.R.; Eastern Europe.

Assistant Professor **James Hollifield**: Comparative politics.

Assistant Professor **Sidney Milkis**: American government.

### Degree Requirements

#### Master of Arts

No one will be accepted in the program who is not a doctoral candidate. However, the M.A. degree may be awarded upon satisfactory completion of one year of residence, the demonstration of proficiency in one foreign language, and the submission of an approved specimen of graduate-level scholarly writing to the department. In certain cases the department will counsel the student to complete his or her graduate studies program with a terminal M.A.

#### Program of Study.

The student must complete two years in residence and a minimum of twelve semester courses. Students with an M.A. in political science from other institutions may petition at the end of one year to have their previous graduate courses accepted for Brandeis credit; this may relieve them of as much as a year of residence requirement. (However, they must satisfy all Brandeis requirements: distribution of curriculum, language, etc.) For distribution, each graduate student will be required to take three of the following fields: American Government, Comparative Government, International Relations, Political Theory and/or Methods, or two of the above plus a category of study at the graduate level in another department of the University, as shall be judged valid for the student's program by this department. (See below for a further clarification of the fields of distribution.)

#### Doctor of Philosophy

Students should note certain special features of the program, in particular, (a) instruction in small seminars under close faculty supervision, (b) supervised independent study facilities within the department, (c) supervised teaching assistantships, (d) opportunities for study in the consortium of universities in the Boston area, and (e) the opportunity to incorporate work in related and relevant fields, e.g. economics, anthropology, philosophy. Each student is assigned to a departmental adviser who will help plan a professional and pertinent program of study. A continuity of faculty direction is insured throughout the program with allowance for shifts in curricular interest.

Within each of the three fields chosen, graduate students will normally take at least two semester courses. The standard work load for full-time students is at least three courses in each semester of their first two years of study. Fourth courses and audits are encouraged, but the load is deliberately set so that the student may supplement his or her regular course work with independently motivated reading and scholarship. Reading courses will not be offered to first-semester students and will be generally discouraged during the first year. By the end of the first year, students should have identified their major and at least one of their minor fields of interest, and should make this known to their adviser and the Graduate Studies Chairman. (In the case of entering M.A.'s, a complete program should be worked out by the end of the first semester.)

**Language Requirements.**

By the end of the first year of study, the student expected to demonstrate proficiency in one approved foreign language. (Quantitative methods may be offered in lieu of one of the foreign languages but not for purposes of obtaining the M.A. degree.) Proficiency in two foreign languages must be demonstrated prior to admission to Ph.D. candidacy. Language proficiency must be demonstrated at Brandeis and certified by the department. Foreign language courses may not be counted for academic credit.

**Evaluation of First Year.**

At the end of each student's first year in the graduate program, there will be a consultation between the student and at least two members of the department to evaluate the student's academic progress, and to help plan the student's subsequent work.

**Research Paper.**

Each second-year graduate student is required to submit a high-quality research paper, which must be approved in its final version by two members of the department (appointed by the graduate adviser in consultation with the student) before the student will be allowed to take the comprehensive Ph.D. qualifying examinations.

**Candidacy for the Ph.D.**

A student may be admitted to candidacy for the Ph.D. degree upon completing the course and research paper requirements, passing the qualifying examination, fulfilling the language requirement and obtaining departmental approval of the subject and preliminary precis of the dissertation.

Normally at the end of the fourth semester or early in the fifth, a formal oral and written examination for candidacy for the Ph.D. will be given covering the student's three fields but with emphasis on the sub-fields in which the student has done the most work. Each of the examinations is individual: it responds to the approved program of the student. The written examinations may be taken, upon arrangement, within any four-month period. The orals are taken no later than two weeks after the last written examination. Students are examined orally in their three fields simultaneously.

However, each student must complete the Ph.D. qualifying examinations by the end of his/her fifth semester in the program, and must submit a dissertation prospectus by the end of the sixth semester. Any extension must be specifically granted by the Graduate Committee.

**Dissertation and Defense.**

The dissertation will be completed under the supervision of the appropriate member of the departmental faculty. It must be sponsored by a departmental committee of at least two members and have the approval of the graduate committee of the department. It is assumed that the writing of the dissertation will take at least one year and, barring exceptional circumstances, not more than two and one-half years. The student must successfully defend the dissertation at a final oral examination conducted by his or her two departmental supervisors and another professor from outside the department or from another university.

**Teaching Assistantships.**

As determined by funds and undergraduate enrollments, the department compensates students for teaching assistant work in an amount customarily based on need. First-year students do not normally receive teaching assistantships. It is the policy of the department that teaching experience is a normal and necessary part of the graduate training program and that ideally all students should have this opportunity regardless of compensation.

**Fields and Sub-Fields.**

As stated above, curricular distribution is based on four major fields. Within the broad range of American Government, special concentrations may be achieved in such areas as urban studies, public administration and policy, institutions of government, parties and pressure groups, constitutional law. The student specializing in Comparative Government should have command of the important theories and theoretical techniques, and cluster of institutions or processes, such as development, political economy, or parties and bureaucracies, as well as familiarity with a designated geographical area. In International Politics, the student also needs a broad mastery of the principal theories, together with a specialization in such topics as international subsystems, diplomatic history, security policy, political economy, comparative foreign policy, or American foreign policy, etc. In Theory and/or Methods, the student should be closely familiar with a major section of the history of political thought (ancient or modern) and the theories therein presented and developed, or may place primary emphasis on the so-called "scope methods of modern political science." This latter category implies not just the knowledge of quantitative techniques but an ability to criticize their application and a general grasp of the intellectual climate in which the philosophy of social science has developed.

The possibility of particular concentrations and emphases within the four major fields above will, of course, vary with the course offerings and the supervisory capacities of the departmental faculty.

**Courses of Instruction****Seminars for Graduate Students**

**Politics 203a.** An examination of the approaches, concepts and theories of the field of comparative politics.

Mr. Hollifield

**Politics 204b.**  Not offered 1985-1986

**Seminar: International Politics**

**Politics 205a.** An examination of the approaches, concepts and theories in the field of American politics.

**Seminar: American Politics**

Mr. Levin

**Politics 206bR.** An examination of the approaches and concepts in the field of political theory.

**Seminar: Political Theory**

Mr. Hulliung

**Politics 246b.**

**Seminar: Religion and Nationalism in the Middle East**

Mr. Kedourie

**Seminars for Graduate Students and Advanced Undergraduates**

**Politics 215b.** An advanced research seminar on selected issues of constitutional law.

**Seminar: Constitutional Law and Theory**

Mr. Woll

**Politics 218b.** This course provides students with an opportunity to research a topic of interest on voting behavior in the U.S. Attention will be paid to various theories that have been offered to explain voting, as well as the basic empirical methodologies used to investigate political behavior. In consultation with the instructor, each student will undertake the completion of a research project based on a computer analysis of recent elections in the U.S.

Mr. Milkis

**Politics 223a.** This seminar examines the interaction of economics and politics in the American political system. A good deal of emphasis is placed on the politics of regulation, and on the philosophical and historical context in which government-business relations have developed. Using environmental and consumer regulation as examples, the course examines the prospects for regulatory reform, and the effects on the public interest of political efforts to curb the impact of federal intervention in society.

**Seminar: Government, Business and American Politics**

Mr. Milkis

**Politics 254b.**

**Seminar: Comparative Public Policy**

The purpose of the seminar is to introduce the student to the basic theories and concepts used in order to compare public policies cross-nationally. An assumption of the seminar is that the analysis is concerned with national systems and less concerned with international systems. Our main concern will be to use policy analyses within systems.

Mr. Hollifield

**Politics 269a.**

**Seminar: The Diplomacy of Henry Kissinger**

An examination of Henry Kissinger's philosophy and practice of statecraft. Analysis of his historical and policy-prescriptive writings prior to his assumption of office in 1969. Evaluation of his performance in office through a detailed examination of the foreign policies and crises behavior of the Nixon and Ford administrations.

Mr. Brown

**Politics 274bR.**

**Problems of National Security**

An analysis of current issues in national security policy through examination of basic theories on the role and utility of force in international relations. Topics covered include: nuclear deterrence, force planning and budgeting, arms control, force projection in the Persian gulf, proliferation, and the NATO alliance.

Mr. Art

**Politics 286a.**

**Seminar: Political Ideologies**

An examination of selected political theories and theorists and the translation of theories into political movements. Emphasis will be placed on the latter with reference to liberal, marxist and conservative parties in the 19th and 20th centuries. Students will be asked to make presentations dealing with aspects of such movements.

Mr. Macridis

**Politics 302-317a and b.**

**Readings in Politics**

302a and b.  
Mr. Brown

310a.  
Mr. Hulliung

303a and b.  
Mr. Hindley

311a and b.  
Mr. Levin

305a and b.  
Mr. Macridis

312a and b.  
Ms. Okin

306a and b.  
Ms. Morgenthau

313a and h.  
Mr. Abramson

307a and b.  
Mr. Melnick

314a and b.  
Mr. Thaxton

308a and b.  
Mr. Woll

315a and b.  
Mr. Burg

309a and b.  
Mr. Art

316a and b.  
Mr. Hollifield

317a and b.  
Mr. Milkis

Politics 400-414. <b>Dissertation Research</b>	Independent research for the Ph.D. degree 400. Mr. Abramson 402. Mr. Brown 403. Mr. Hindley 405. Mr. Macridis 406. Ms. Morgenthau 408. Mr. Wolf	409. Mr. Art 410. Mr. Hullung 411. Mr. Levin 413. Ms. Okin 414. Mr. Thaxton	Politics 132b. <b>Nationalism in the Middle East</b>	Mr. Kedourie
In addition, the following advanced undergraduate courses may be taken for graduate credit. (See College Catalog for descriptions.)			Politics 134bR. <b>The Arab-Israeli Conflict</b>	Mr. Kedourie
Politics 101a. <b>Parties, Pressure Groups and Public Opinion</b>	Mr. Milkis		Politics 140a. <b>Politics of Africa</b>	Mr. Pounçy
Politics 113b. <b>The American Presidency</b>	Mr. Milkis		Politics 141a. <b>International Politics of Southern Africa</b>	Mr. Nyangoni
Politics 114a. <b>Judicial Activism</b>	Mr. Melnick		Politics 141bR. <b>Africa and World Politics</b>	Mr. Pounçy
Politics 121b. <b>Limits of the Market and Public Intervention</b>	Mr. Levin		Politics 143b. <b>Third World Countries and Soviet Strategy</b>	Mr. Pounçy
Politics 123bR. <b>Politics of Urban Criminal Justice</b>	Mr. Levin		Politics 144a. <b>Political Change in Latin America I</b>	Mr. Hindley
Politics 124a. <b>Science, Technology and Politics</b>	To be announced		Politics 144b. <b>Political Change in Latin America II</b>	Mr. Hindley
Politics 125aR. <b>Political Change in Afro-American Communities</b>	Mr. Pounçy		Politics 150a. <b>Government and Politics of Southeast Asia</b>	Mr. Hindley
Politics 127b. <b>Managing Ethnic Conflict</b>	Mr. Burg		Politics 152aR. <b>The Political Economy of Advanced Industrial Economies</b>	Mr. Hollifield
Politics 128aR. <b>Contemporary Peasant Revolutions</b>	Mr. Thaxton		Politics 163aR. <b>American Foreign Policy in the Twentieth Century</b>	Mr. Schuker
Politics 129a. <b>Communism in Eastern Europe</b>	Mr. Burg		Politics 165bR. <b>Introduction to Peace Studies</b>	Mr. Brown
Politics 130bR. <b>Soviet Domestic Relations</b>	Mr. Burg		Politics 166b. <b>Issues in International Political Economy</b>	To be announced
Politics 132a. <b>The Making of the Modern Middle East</b>	Mr. Kedourie		Politics 167bR. <b>International Law and Conflict Resolution</b>	Ms. Ben-Naftali

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Politics 168b.  
**American Foreign  
Policy**

Mr. Brown

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Politics 170b.  
**The Third World in  
the Global Economy** To be announced

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Politics 177aR.  
**Soviet Foreign  
Policy**

Mr. Burg

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Politics 178a.  
**International Politics  
of the Pacific**

Mr. Thaxton

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Politics 194a.  
**Politics and the  
Novel**

Mr. Levin

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Politics 196bR.  
**Romantic and  
Existentialist  
Political Thought**

Mr. Hulliung

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Politics 198a.  
**Feminist Theory:  
Gender, Power and  
Justice**

Ms. Okin

# Psychology

## Objectives

The graduate program in Psychology leads to the degree of Doctor of Philosophy. The goal of the program is to develop competent research psychologists and teachers who will become contributors to knowledge in psychology. Toward this end, an emphasis is placed on research activity, starting in the first semester of graduate study. The program of study reflects a belief that the student should develop an area of research specialization and also should be exposed to a range of topics in general psychology. Dissertation supervision is available in the following areas: Sensation, Perception, Memory, Learning, Thinking, Comparative, Developmental, Personality, Psychopathology, Social Psychology, Linguistics and Cognitive Science.

The Psychology Department also offers a program leading to the degree of Doctor of Philosophy in Psychology with specialization in Linguistics and Cognitive Science. This program focuses on mental representation, in particular the representation and processing of language. The program is designed to equip students with a broad understanding of contemporary linguistic theory and its relationships to other areas of psychology. The goal of the program is to train students to carry out independent, original theoretical or experimental research and to be able to bring their research to bear on wider issues.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

An undergraduate major in psychology is not required. Students with inadequate preparation may make up their deficiencies during their first year, but without residence credit. Students are admitted on a competitive basis which includes evaluation of previous academic record, recommendations, results of the Graduate Record Examination (Aptitudes and Psychology Achievement Tests).

Applications to Linguistics and Cognitive Science should specifically mention interest in this program.

## Faculty

Professor **Arthur Wingfield**, Chair: Human memory. Cognitive processes.

Professor **Ray S. Jackendoff**, Chair, Program in Linguistics and Cognitive Science: Linguistics. Semantic theory. Music.

Adjunct Professor **Ashton Graybiel**

Adjunct Professor **Marcel Kinsbourne**

Professor **James R. Lackner**, Director, Spatial Orientation Laboratory: Human experimental psychology. Psycholinguistics

Professor **Leslie Z. McArthur**, Director, Social/Developmental Social psychology. Interpersonal attraction.

Professor **Edgar Zurif**: Neurolinguistics. Psycholinguistics.

Professor **Rocardo B. Morant**, Director, Experimental/Physiological: Experimental psychology. Perceptual mechanism. Sensation and perception.

Professor **Zick Rubin**: Social psychology. Interpersonal relationships.

Professor **Joan Maling**: Neurolinguistics. Psycholinguistics.

Associate Professor **Theresa M. Amabile**: Social psychology. Creativity.

Associate Professor **Maurice Hershenson**: Perception. Developmental theory.

Associate Professor **Raymond Knight**: Clinical psychology. Experimental psychopathology.

Associate Professor **Joan Malins**: Linguistics. Syntactic theory. Historical syntax. Metrics.

Associate Professor **Alan S. Prince**: Phonological theory. Metrics.

Associate Professor **Malcolm W. Watson**: Developmental psychology

Associate Professor **Jerome Wodinsky**: Comparative psychology. Learning theory. Sensory physiology.

Associate Professor **Michael Berbaum**: Group problem-solving and decision-making.

Assistant Professor **Joseph Cunningham**: Developmental psychopathology.

Assistant Professor **Jane B. Crimshaw**: Linguistics. Language acquisition.

Assistant Professor **Marjorie Lachman**: Life-span development. Adult personality.

Assistant Professor **James Todd**: Layout and motion perception.

**Degree Requirements****Doctor of  
Philosophy****Program of Study.**

Although there is a two-year minimum residency requirement, four years of full-time graduate study are usually required for the Ph.D. The student is expected to carry the equivalent of twelve credit units per semester during residency.

**Research.**

Each student will devote one-quarter of his or her time to research the first semester of the entering year. For all subsequent semesters, students shall devote a minimum of one-half time to research.

**Research Reports.**

Students will submit reports on their research for the preceding year, in journal form, in time to permit evaluation of the first project by the end of the third semester, and of the second project by the end of the fifth semester. Satisfactory completion of the research projects is required for continuation in the program. Students who have satisfactorily completed the research requirements will be permitted to continue their work toward the doctorate with no formal requirement of a master's degree.

**Course Requirements.**

Entering students will take two advanced courses and Psychology 210a in the first term of residence, one advanced course and Psychology 210b in the second term. After that they shall take two advanced courses per term in the second year, and one each term thereafter until admitted to candidacy for the doctorate. Each term, a student must take at least one graduate level course or seminar (100-level or above) that is not an Independent Readings or Research course. Only selected 100-level courses, determined by the Psychology Department, will count as advanced, graduate level courses. Graduate level course selection will not be restricted to the Psychology Department but will be arranged by the student in consultation with the faculty adviser.

**Qualifying  
Examinations.**

Before being admitted to candidacy for the doctorate, each student must also pass a qualifying examination. During the student's third year, he or she will be examined in the historical, theoretical and empirical literature related to the student's area of specialization, broadly conceived. The chairman of the department, in consultation with the student and adviser, will appoint a three-member committee to administer the qualifying examination. The examination may be in either oral or written form. A student may petition the department to take the examination a second time if necessary.

**Breadth Requirement.**

All graduate students must demonstrate breadth in the field of psychology before being admitted to candidacy for the Ph.D. This breadth requirement is fulfilled by demonstrating competence in at least six of the nine areas listed below. The requirements may be satisfied in any of three ways:

- a. By having completed an undergraduate or graduate course in that area,
- b. By completing an undergraduate or graduate course offered in that area at Brandeis,
- c. By successfully passing the equivalent of any undergraduate final examination for that course.
- d. Of the six courses, a minimum of two should be taken from areas in Group A and a minimum of two from Group B.

**Group A**

1. Physiological/Sensory Processes
2. Perception
3. Learning/Comparative
4. Cognition/Memory
5. Cognitive Science/Linguistics

**Group B**

1. Developmental
2. Social
3. Personality
4. Abnormal

**Teaching  
Assistantship  
Requirements.**

Each student must work as a teaching assistant for a minimum of four courses, including the course Introductory and at least one of the following courses: Statistics, Experimental, Developmental, Cognitive Processes, Sensory Processes, Perception, Social, Personality or Abnormal.

**Language  
Requirement.**

There is no foreign language requirement.

**Admission to  
Candidacy.**

A student may be admitted to candidacy for the doctorate upon fulfilling the above requirements.

**Dissertation and  
Defense.**

Following the completion of all examinations, the student will prepare a prospectus of the proposed dissertation study in consultation with a faculty dissertation sponsor. The prospectus may be based on preliminary research conducted prior to the student's admission to candidacy for the doctorate. Upon approval by the faculty of the department, a dissertation committee of three or more members will be appointed by the department chair, including the dissertation sponsor as chair of the committee. The dissertation sponsor will be responsible for advising the student throughout the performance of his or her work, in consultation with the remaining members of the committee at appropriate times in the course of the work. From time to time, the committee will report the student's progress to the department faculty.

The dissertation should provide evidence of originality, scholarship and research ability. It should be a contribution to knowledge, ordinarily an experimental investigation, but not necessarily so. Upon submission to the chair of

the department of a copy of the dissertation, signed by all members of the dissertation committee and one member from outside of the university, and a successful defense of the dissertation before all members of the department, the award of the Ph.D. will be recommended to the Faculty Council of the Graduate School.

#### Master of Arts

Students in the Ph.D. program may petition for a Master of Arts degree upon completion of the following requirements: 1) One year minimum residency. 2) Acceptable master's thesis. (An acceptable first-year research report will count as a master's thesis.) 3) Completed breadth requirements.

#### Ph.D. in Psychology with Specialization in Linguistics and Cognitive Science.

This program focuses on the development of formal theories of mental representation. It emphasizes the unity behind approaches to mind within cognitive psychology and linguistics, with attention to the important contributions of computer science and philosophy. Application should specifically mention an interest in this program.

The degree requirements are as given above, except in the following respects:

#### Course Requirements.

a. All student will take the following courses in their first year:  
 Syntax  
 Phonology  
 Research Seminar (for credit)  
 Seminar in Cognitive Science  
 One of: Topics in Syntax, Topics in Semantics, Topics in Phonology

#### Courses of Instruction

##### Psychology 120b. Man in Space

This course concerns the physiological and psychological consequences of prolonged exposure to weightlessness. The topics covered will include a) how orbital flight is achieved, b) spacecraft life support systems, c) circulatory dynamics, d) sensory-motor control and vestibular function in free fall. Emphasis is placed on the physiological and psychological adaptations necessary in space flight and how astronauts must readapt on return to earth.

Mr. Lackner

##### Psychology 123a. Psychology of Pictorial Representation

The main thrust of the seminar will be to explore the question of how visual reality is mediated by painting. The first meetings will examine the theories of, among others, Combrich and Gibson. Later meetings will deal with specific issues relating to the representation of objects and persons; for example, anamorphic art and the problem of perspective, the representation of color and brightness relationships, object transparency, caricature and image, pictures as signals and symbols.

Mr. Morant

b. All students will take the following courses every year until they are admitted to candidacy:

Seminar in Cognitive Science

Two of: Topics in Syntax, Topics in Semantics, Topics in Phonology

c. Beginning in the second semester every student will take a minimum of one research course per semester. As part of the research requirement students attend the research seminar every year.

All programs must be approved by the graduate adviser.

In addition to the areas covered by the course requirements, students must demonstrate competence in four areas, two from Group A and two from Group B.

#### Group A:

Psycholinguistics; neurolinguistics; language acquisition; historical/comparative linguistics.

#### Group B:

Cognitive psychology; statistics (graduate level); logic/philosophy of mind; computer science/artificial intelligence.

Courses offered for satisfaction of the breadth requirement must be approved by the Linguistics and Cognitive Science faculty.

#### Research Reports.

Students will submit reports on their research in time to permit evaluation of the first project by the end of the third semester, and of the second project by the end of the fifth semester. Satisfactory completion of the research projects is required for continuation in the program.

##### Psychology 130bR. Life-span

**Development: Adulthood and Old Age**

Not offered 1985-1986

##### Psychology 132a. Cognitive

**Development**

Not offered 1985-1986

##### Psychology 135bR. Seminar in Social

**Cognition**

Not offered 1985-1986

##### Psychology 136aR. Advanced Topics in

**Developmental Psychology**

Not offered 1985-1986

##### Psychology 137bR. Social Interactions

Study of interaction among humans chiefly from an experimental perspective. Such processes as social facilitation, imitation, conformity, cooperation and competition, bargaining, coalition formation, group problem-solving and group decision-making are examined. Models of interaction involving conflict are applied to the analysis of behavior in selected natural contexts.

Mr. Burbaum

Psychology 138a. <b>Social Relationships</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 161b. <b>Clinical Psychology Practicum</b>	A continuation of Psych. 161a. Enrollment limited to 20. Mr. Cunningham
Psychology 139bR. <b>Development of Play and Imagination</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 167b. <b>Schools of Psychotherapy</b>	Theories and techniques of several schools of psychotherapy and behavior modification are considered. The theories of personality, methods of intervention, goals of therapy and relevant research will be emphasized. Mr. Knight
Psychology 140b. <b>Social Psychology and Social Policy</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 168a. <b>The Psychology of Creativity</b>	<input type="checkbox"/> Not offered 1985-1986
Psychology 145b. <b>Aging in a Changing World</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 169b. <b>Disorders of Childhood</b>	This course will review issues of theory, research and practice in the areas of child and adolescent psychopathology and treatment. Special attention will be given to the need for examining abnormality in the context of normal developmental processes. The relationship between theory and practice will be explored through reading and discussion of theory, empirical research and clinical case material. Mr. Cunningham
Psychology 153a. <b>Consciousness</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 172a. <b>Temporal Patterning of Behavior</b>	Seminar on problems of serial patterning in the perception and production of speech. Discussion of problems in the integration and execution of complex motor patterns. Mr. Lackner
Psychology 154aR. <b>Human Memory</b>	This course presents a systematic analysis of current and traditional memory research and theory as it sheds light on both normal memory and cognitive function and on memory deficits following cerebral damage. Mr. Wingfield	Psychology 173aR. <b>Psycholinguistics</b>	<input type="checkbox"/> Not offered 1985-1986
Psychology 155aR. <b>Seminar in Visual Space Perception</b>	Seminar will discuss major theories of perception: Gibson, Johansson, transactionalism, neo-Helmholtzian (Rock, Epstein, Wallach), computation (Marr, Ullman), hierarchical structure (Hershenson). Emphasis will be on fundamental properties of perception: size and shape constancy, and motion. Mr. Hershenson	Psychology 180b. <b>Seminar: Writing and the Social Sciences</b>	<input type="checkbox"/> Not offered 1985-1986
Psychology 156bR. <b>Perceptual Development</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 181b. <b>Medical Anthropology</b>	See Anthropology 101b. Mr. Jacobson
Psychology 160bR. <b>Seminar on Sex Differences</b>	This course will examine societal sex roles and lay beliefs about sex differences in light of evidence bearing on: 1) actual sex differences in ability and/or personality; 2) biological vs. social explanations for sex differences; 3) motivational and cognitive biases in the perception of group differences. Enrollment limited to 20. Ms. McArthur	Psychology 182bR. <b>Culture and Cognition</b>	See Anthropology 161bR. Mr. Murray
Psychology 161a. <b>Clinical Psychology Practicum</b>	This course, in conjunction with Psych. 161b, provides an intensive, supervised practicum experience in the provision of mental health services. Students pursue a program of reading and spend one day a week working in a clinical facility. Weekly class meetings are structured to provide opportunities for personal and professional growth through discussion of individual experiences in the clinical setting. Enrollment limited to 20. Mr. Cunningham	Psychology 184b. <b>Philosophy and Psychology</b>	<input type="checkbox"/> Not offered 1985-1986
		Psychology 185b. <b>Philosophy of Mind</b>	See Philosophy 156h. Mr. Samet

Psychology 193bR. <b>Tests and Measurements</b>	This course covers test theory, types of measurement, the theory and measurements of reliability and validity, and test construction. The measurements of intelligence, achievement and personality are also considered.	Psychology 208a. <b>Seminar in Cognitive Science: Neurolinguistics</b>	Mr. Zurif
Psychology 194b. <b>Language and Mind</b>	An examination of Noam Chomsky's approach to the theory of language, <b>concentrating on the notion of innate ability to learn human languages</b> . This course will discuss philosophical and psychological consequences of Chomsky's theory, discussing applications of his conceptual framework to the study of other human activities such as reasoning, perception, sensory-motor coordination and the understanding of music.	Psychology 209a. <b>Advanced Seminar in Measurement Theory and Mathematical Modelling</b>	<input type="checkbox"/> Not offered 1985-1986
Psychology 197a. <b>Language Acquisition and Development</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 210a. <b>Advanced Psychological Statistics I</b>	Probability and inferential statistics for experimental research. Rules of probability, random variables and their distributions, statistical inference, tests of hypotheses and confidence intervals for population means, principles of experimental design, the analysis of variance. Introduction to computer analysis using the SPSS and BMDP statistical packages.
Psychology 199aR. <b>Introduction to Neuropsychology</b>	This course is designed as an introduction to the field of neuropsychology. Topics will include the concepts of cerebral dominance and localization of function within the human brain, with special reference to language and related mental function. The aphasic syndromes will receive special attention, including their symptoms, progress, brain localization and concomitant cognitive disorders.	Psychology 210b. <b>Advanced Psychological Statistics II</b>	Mr. Berbaum Statistical procedures for quasi and non-experimental research. Correlation and regression, multiple regression, partial and multiple correlation, the analysis of contingency tables (cross-tabulations), nonparametric statistics. Computer data analysis using SPSS and BMDP. <i>Prerequisite:</i> Psychology 210a or permission of the instructor.
Psychology 201a and b. <b>Research Topics in Experimental Psychology</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 213b. <b>Cognition and the Brain</b>	<input type="checkbox"/> Not offered 1985-1986
Psychology 204a. <b>Research Methodology for Developmental and Social Psychology</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 216b. <b>Research Seminar in Cognitive Sciences</b>	In this seminar, students will present and discuss their ongoing research. Ms. Maling
Psychology 205a. <b>Seminar in Perceptual Development</b>	<input type="checkbox"/> Not offered 1985-1986	Psychology 218b. <b>Seminar in Social Cognition</b>	Ms. McArthur This course deals with research in impression formation and causal attribution. Causal attributions for one's own behavior as well as for other people's behavior will be treated. Determinants of impression formation and causal attribution to be covered include social information, attention, motives and individual differences.
Psychology 206b. <b>Computer Methods in Psychological Experimentation</b>	<input type="checkbox"/> Not offered 1985-1986		
Psychology 207a. <b>Seminar in Perception</b>	This course examines the various aspects of visual information by which objects and events in 3-dimensional space are perceived by human observers. Current research in both psychology and artificial intelligence will be considered.	Mr. Todd	

Psychology 220-238. <b>Courses in Research</b>		236a and b. <b>Research in Developmental Psychology</b>	Mr. Watson
220a and b. <b>Research in Spatial Orientation</b>	Mr. Lackner	237a and b. <b>Research in Group Problem Solving and Decision-Making</b>	Mr. Berbaum
221a and b. <b>Research in Semantics and Conceptual Structure</b>	Mr. Jackendoff	238a and b. <b>Research in Metric and Phonological Theory</b>	Mr. Prince
222a and b. <b>Research in Human Spatial Orientation</b>	Mr. Morant		
223a and b. <b>Research in Social Psychology</b>	Mr. Rubin	Psychology 250-268. <b>Advanced Research Project</b>	260a and b. Mr. Lackner
224a and b. <b>Research in Speech Perception and Cognitive Processes</b>	Mr. Wingfield	251a and b. Mr. Morant	261a and b. Ms. Amabile
225a and b. <b>Research in Visual Information Processing</b>	Mr. Hershenson	252a and b. Mr. Rubin	262a and b. Mr. Berbaum
226a and b. <b>Research in Cognitive Processes and Psychopathology</b>	Mr. Knight	253a and b. Mr. Wingfield	263a and b. Mr. Cunningham
227a and b. <b>Research in Neurolinguistics and Psycholinguistics</b>	Mr. Zurif	254a and b. Mr. Hershenson	264a and b. Ms. Grimshaw
228a and b. <b>Research in Syntax and Comparative Germanic</b>	Ms. Maling	255a and b. Mr. Knight	265a and b. Ms. Lachman
229a and b. <b>Research in Person Perception</b>	Ms. McArthur	256a and b. Ms. McArthur	266a and b. Mr. Todd
230a and b. <b>Research in Animal Behavior</b>	Mr. Wodinsky	257a and b. Mr. Wodinsky	267a and b. Mr. Zurif
231a and b. <b>Research in Social Psychology</b>	Ms. Amabile	258a and b. Mr. Watson	268a and b. Mr. Prince
232a and b. <b>Research in Developmental Psychopathology</b>	Mr. Cunningham	259a and b. Mr. Jackendoff	
233a and b. <b>Research in Syntax and Language Learnability</b>	Mr. Grimshaw		
234a and b. <b>Research in Life-span Development; Adult Personality</b>	Ms. Lachman	Psychology 280-298. <b>Advanced Readings</b>	290a and b. Mr. Lackner
235a and b. <b>Research in Layout and Motion Perception</b>	Mr. Todd	280a and b. Mr. Morant	291a and b. Ms. Amabile
		281a and b. Mr. Rubin	292a and b. Mr. Berbaum
		282a and b. Mr. Wingfield	293a and b. Mr. Cunningham
		283a and b. Mr. Hershenson	294a and b. Ms. Grimshaw
		284a and b. Mr. Knight	295a and b. Ms. Lachman
		285a and b. Mr. McArthur	296a and b. Mr. Todd
		286a and b. Mr. Wodinsky	297a and b. Mr. Zurif
		287a and b. Mr. Watson	298a and b. Mr. Prince
		288a and b. Mr. Jackendoff	
		289a and b. Mr. Wingfield	

Psychology 300a. Proseminar in Social and Developmental	Ms. Lachman	Linguistics 112b. Introduction to Historical Linguistics	Principles and methods of language change and linguistic reconstruction. Emphasis on the history and development of the Indo- European language family. Readings from earlier scholars (Meillet, Jakobson, Vendryés, etc.) as well as discussion of present-day issues in historical and comparative linguistics. Practical exercises in comparative method and internal reconstruction.
Psychology 310b. Topics in Data Analysis for Social Scientists	<input type="checkbox"/> Not offered 1985-1986	Mr. Keiler	
Psychology 400-418. Dissertation Research	400. Mr. Lackner 401. Mr. Jackendoff 402. Mr. Morant 403. Mr. Rubin 404. Mr. Wingfield 405. Mr. Hershenson 406. Mr. Knight 407. Mr. Watson 408. Ms. Maling 409. Ms. McArthur	410. Mr. Wodinsky 411. Ms. Amabile 412. Mr. Cunningham 413. Ms. Grimshaw 414. Ms. Lachman 415. Mr. Todd 416. Mr. Berbaum 417. Mr. Zurif 418. Mr. Prince	Linguistics 120b. Syntactic Theory This course extends the syntactic framework developed in the introductory course through the study of such problems as the complement system and constraints on transformations, with emphasis on their relevance to universal grammar. Prerequisite: Linguistics 100a. Ms. Grimshaw
Courses and Seminars for Graduate Students and Advanced Undergraduates		Linguistics 122b. Investigations in an Unfamiliar Language	<input type="checkbox"/> Not offered 1985-1986
Linguistics 100a. Introduction to Linguistics	A general introduction to linguistic theory and the principles of linguistic analysis. The central topic of the course is what speakers know about their language: syntax, semantics, and phonetics and phonology. In each area, students will construct detailed analyses of data from English and from other foreign languages. Additional topics such as historical linguistics and the psychological implications of linguistic theory will be covered as time allows.	Linguistics 125b. Advanced Syntactic Theory	<input type="checkbox"/> Not offered 1985-1986
	Mr. Jackendoff	Linguistics 130aR. Semantics	This course explores the semantic structure of language in terms of current linguistic theory. Topics to be covered include the nature of semantic representation, functional structure, presupposition and reference. Mr. Jackendoff
Linguistics 100aR. Introduction to Linguistics	See Linguistics 100a. Ms. Grimshaw	Linguistics 135a. Linguistics and the Romance Languages	<input type="checkbox"/> Not offered 1985-1986
Linguistics 110a. Introduction to Phonology	This course is an introduction to Generative Phonology, which is a theory of natural language sound systems. It begins with a review of articulatory phonetics, followed by distinctive feature theory and the concept of a "natural class." The central section covers morphology and the nature of morphophonetics and universal properties of the rules that relate morphophemic and phonetic representations. The course ends with discussion of a special topic such as syllable structure or word-formation. Prerequisite: Linguistics 100a.	Linguistics 140a. History of the English Language	<input type="checkbox"/> Not offered 1985-1986
	Mr. Prince	Linguistics 150b. Introduction to Cognitive Science	The idea of "mental representation" is central in cognitive science, and this course explores this idea from a number of perspectives. Representations evoked during visual perception, during language comprehension and production, and during reasoning are examined, as are the nature of "concepts" and role of genetic predisposition in mental representations. The methods of cognitive science are also reviewed, with an emphasis on the interdisciplinary nature of the field. Mr. Jackendoff
		Linguistics 153a. Consciousness	<input type="checkbox"/> Not offered 1985-1986
		Linguistics 173aR. Psycholinguistics	<input type="checkbox"/> Not offered 1985-1986

Linguistics 197a. <b>Language Acquisition and Development</b>	<input type="checkbox"/> Not offered 1985-1986	Linguistics 225bR. <b>Syntax</b>	Recent developments in syntax, including such topics as constraints on rules, trace theory, government and binding, and lexical-functional grammar. Required of first-year graduate students in Linguistics and Cognitive Science.
Linguistics 199 a and b. <b>Directed Research</b>	Staff	Ms. Maling	
<b>Seminars for Graduate Students</b>			
Linguistics 215bR. <b>Phonology</b>	Recent developments in phonological theory, with special emphasis on prosodic phonology including autosegmental theories of tone, nonlinear morphology and phonology, and metrical theories of stress. Required of first-year graduate students in Linguistics and Cognitive Science.	Ms. Grimshaw	
	Mr. Prince	Linguistics 226a. <b>Topics in Syntax</b>	Current issues in the theory of syntax, focussing on research in Government Binding Theory and Lexical Functional Grammar. Topics covered will vary from year to year, but will generally include: anaphora, extraction, bounding conditions and lexical representation.
Linguistics 217b. <b>Topics in Phonology</b>	Topics drawn from recent research in metrical, autosegmental and lexical phonology. Requirements include a class presentation and a research paper. Material covered will vary from year to year.	Linguistics 236a. <b>Topics in Semantics</b>	<input type="checkbox"/> Not offered 1985-1986
	Mr. Prince		

## Russian

See Joint Program of Literary Studies.

# Sociology

## Objectives

The graduate program in Sociology is primarily a doctoral program and is designed for students who intend to devote themselves to teaching and research in sociology. The student may, by satisfying certain requirements, receive the M.A. degree. The general objective is to educate students in the major areas of sociology with specialization in several of them.

## Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Sociology Department.

In addition, all prospective students are required to submit written material (papers, etc.) representative of their best work, which need not be, however, of a sociological nature.

## Faculty

Associate Professor **Gordon A. Fellman**, Chair: Marx and Freud. Social stratification. Peace studies.

Professor **Egon Bittner**: Sociology of law. Social control.

Professor **Ralph Miliband**: Comparative social structures. Political sociology. Social and political theory.

Professor **George W. Ross**: Political sociology. Social theory.

Professor **Morris S. Schwartz**: Social psychology. Social psychiatry. Peace studies.

Professor **Maurice R. Stein**: Communities. Culture, counseling, consciousness.

Professor **Irving K. Zola**: Sociology of health and illness. Disability studies. Deviance. Field studies.

Professor Emeritus **Kurt H. Wolff**: Sociology of knowledge. Phenomenology and sociology. "Surrender-and Catch."

Associate Professor **Karen E. Fields**: Sociology of religion. Sociology of development.

Associate Professor **Charles S. Fisher**: Technology and environment. Social psychology of consciousness.

Associate Professor **Gila J. Hayim**: Sociological theory, critical theory, phenomenology and existential sociology.

Assistant Professor **Kathleen Barry**: Feminist theory. Family. Sociology of education.

Assistant Professor **Peter Conrad**: Sociology of health and illness. Deviance. Field methods.

Assistant Professor **Shulamit Reinharz**: Qualitative methodology. Social gerontology. Feminist research. Social psychology. Group dynamics.

Lecturer **Mary Jacqueline Alexander**: Sociology of health. Political sociology. Third world development. Sociology of women.

Lecturer **Adrian C. Hayes**: Social theory. Quantitative methods. Population. Mass communications.

Lecturer **Carol Mueller**: Social movements. Politics of gender. Political culture.

## Degree Requirements

### Doctor of Philosophy

#### Program of Study.

Students entering the Ph.D. program in Sociology are expected to undertake a two-year program of course work, as a part of which they are obliged to take the departmental Pro-Seminar (Sociology 290). The initial program of studies will be arranged in consultation with the graduate student's adviser. Consideration will be given to graduate work done elsewhere but formal transfer credit will be assigned only after the successful completion of the first year of study.

#### Requirements for the M.A.

An M.A. may be granted after the successful completion of three semesters of course work and submission of two substantial research papers to be approved by the Department.

#### Residence Requirements.

The minimum residence for the degree of Doctor of Philosophy is two years. It is expected that the Ph.D. will be earned within five years.

#### Language Requirements.

There is no foreign language requirement for the Ph.D. degree.

## Qualifying Examinations.

During a student's residency until the time of his or her formal admission to candidacy, the specific planning, evaluation and accreditation of his or her entire course of study will be in the hands of each student's Guidance-Accreditation Committee composed of three faculty members. Along with the student, this committee will lay out a general course of study designed to meet the interests and needs of the student. Upon completion of this course of study, the student will take an oral qualifying examination covering both general sociology and the areas of the student's special interests. It is assumed that students will fulfill their accreditation before the end of their third year of residence.

## Admission to Candidacy.

A student shall be eligible for admission to candidacy for the Ph.D. upon fulfillment of the residence requirements, passing the departmental qualifying examination, and successful defense of a dissertation proposal. The work on the doctoral dissertation will be supervised by a Dissertation Committee.

## Dissertation and the Final Oral Examination.

The Ph.D. dissertation may be accepted by the Department upon the recommendation of the Dissertation Committee. To be granted the degree, the student is required to defend the dissertation in a public Final Oral Examination.

**Courses of Instruction**

Sociology 101a. <b>American Society</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 110bR. <b>Sociology of Knowledge</b>	History and historical interpretation of the sociology of knowledge with particular emphasis on German and recent American literature.
Sociology 102a. <b>Social Psychiatry</b>	Training in peer counseling is offered through classes, supervised sessions with other students, and community work. Theory, social contexts and practice of re-evaluation counseling is stressed. Other social psychiatric approaches are also covered. Permission of instructor required.	Mr. Stein	Mr. Wolff
Sociology 102b. <b>Social Psychiatry</b>	<input type="checkbox"/> Not offered 1985-1986		Mr. Fellman
Sociology 103aR. <b>The Sociology of Mental Illness and Health</b>	This course will concern itself with various sociological and psychological perspectives on the causes, nature of, and treatment for mental illness. We will also focus on the ways in which mental health is conceptualized as an internal state and an interpersonal process, and on the suggested means through which it might be achieved.	Mr. Schwartz	Sociology 113b. <b>Women and Work</b>
Sociology 104aR. <b>Sociology of Education</b>	<input type="checkbox"/> Not offered 1985-1986		Sociology 116b. <b>Comparative Ethnic Relations</b>
Sociology 105a. <b>Feminist Critique of Contemporary Social Institutions I</b>	Study of the various issues addressed in feminist activism (i.e. family, childcare, reproductive rights, employment discrimination, social construction of sexuality and lesbian rights, sexual violence) as they form a critique of social and political institutions, analysis of the structural, ideological and psychological dimensions of sex oppression.	Ms. Barry	Sociology 118a. <b>American Jewish Life and Institutions</b>
Sociology 107a. <b>Issues in Social Psychology</b>	<input type="checkbox"/> Not offered 1985-1986		Sociology 118b. <b>The Sociology of the American Jewish Community</b>
Sociology 108bR. <b>Critiques of Contemporary Society</b>	<input type="checkbox"/> Not offered 1985-1986		Sociology 119a. <b>Militarism: The Arms Race and American Society</b>
Sociology 109bR. <b>Black Intellectuals and the Crisis of the Twentieth Century</b>	Considers major political writers and leaders in the United States, Africa and the Caribbean by passing in review the twentieth century as seen from the standpoint of their work. Includes Dubois, Garvey, Nkruman, King, Rodney and others.	Ms. Fields	Sociology 119b. <b>Social Change: The Nonviolent Movement</b>

Sociology 112b. <b>Social Class, Freedom and Equality</b>	The concept of social class; its role in determining life changes, lifestyles, income, occupation and power; theories of class and inequality; selected social psychological aspects of social class and inequality; American class structure and dynamics; American social class and imperialism.
Sociology 113b. <b>Women and Work</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 116b. <b>Comparative Ethnic Relations</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 118a. <b>American Jewish Life and Institutions</b>	See NEJS 161a. Mr. Sklare
Sociology 118b. <b>The Sociology of the American Jewish Community</b>	See NEJS 164b. Mr. Sklare
Sociology 119a. <b>Militarism: The Arms Race and American Society</b>	The objective of the course is to increase comprehension of the consequences of militarism and the arms race for American society. Attention will be given to the post-World War II development of militarism and its relationship to American economic, political and social institutions including focus on issues of national security, nuclear proliferation and modern disarmament activity.
Sociology 119b. <b>Social Change: The Nonviolent Movement</b>	Messrs. Fellman and Schwartz
Sociology 120a. <b>Sociology of Underdevelopment I</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 120b. <b>Sociology of Underdevelopment II</b>	This course will examine selected aspects of the phenomenon of underdevelopment, paying particular attention to economic, political and social factors internal to Third World societies. Although the course will be informed throughout by general theorizing about underdevelopment and will include theoretical readings, it will emphasize the local consequences of large-scale processes. Topics will include migration, rural organization, education and urban growth. The course is designed with the undergraduate concentrator in one of the social sciences in mind.
Sociology 121a. <b>Contemporary Latin American Society</b>	Ms. Fields

Sociology 120b. <b>The Sociology of Underdevelopment II</b>	This course examines selected aspects of underdevelopment, paying particular attention to processes of change internal to Third World societies.  Ms. Fields	Sociology 134a. <b>Women and Intellectual Work</b>	This research seminar investigates the history of American women social scientists within the context of intellectual history, social structure, and gender relations. We will analyze the scholarly work of different generations of women thinkers, including their reflective writing. We will examine the reports of the American Sociological Association on the status of women. From this course students should gain an appreciation both of the history of women's intellectual effort as sociologists and the contrast and continuities with current work.  Ms. Reinhartz
Sociology 121bR. <b>Sociology of Mass Communications</b>	Through an examination of the history and development of contemporary media, including television, films, print media, etc., the course will explore the impact of mass culture on everyday life. We will consider questions of audience, politics and ideology, aesthetics, and the structure of the culture industry.  Mr. Hayes	Sociology 135a. <b>Group Process</b>	Interpretation of interpersonal behavior and group development, based in part on observation of the group itself. Readings will include material from psychology and social anthropology as well as sociology. Enrollment limited to 12 students.  Section 1: Mr. Schwartz Section 2: Ms. Reinhartz
Sociology 122a. <b>Sociology of Power</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 135b. <b>Group Process — Advanced</b>	A continuation of Sociology 135a. Mr. Schwartz
Sociology 126a. <b>Sociology of Deviance</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 141a. <b>Marx and Freud</b>	The course stresses Marxian and Freudian treatment of human nature, human potential, social stability, conflict, change, consciousness, social class and the relationship between family and social process. Topics of contemporary importance are reviewed in the light of both traditions. Attempts to combine the two approaches are examined.  Mr. Fellman
Sociology 126bR. <b>Planned Communities</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 141b. <b>Advanced Seminar on Marx and Freud</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 128bR. <b>Sociology of Religion: Sects, Cults and Societies</b>	Uses case studies to examine religious innovation in comparative perspective and in terms of its impact upon established religion, economic life, political organization and individual personality.  Ms. Fields	Sociology 144b. <b>Sociopsychological Dimensions of the Arms Race</b>	In this course we will read the literature in, discuss and critically evaluate, the sociopsychological theories, speculations, interpretations and conceptualizations that explain and try to understand the arms race.  Mr. Schwartz
Sociology 130a. <b>The Family I</b>	This course presents a view of the family as a patriarchal institution and analyzes its relationship to other social institutions. Cross cultural analysis is employed to examine family forms, practice and ideas in terms of their impact on women. Critique of the family is approached through studying alternative life-styles and violence in the family.  Ms. Barry	Sociology 147a. <b>The Sociology of Organizations and Occupations</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 131b. <b>Women's Biography and Society</b>	Through the biographies of women intellectuals, scientists, political leaders and "ordinary" women, we will study women's subjective experiences and interactions as they are imbedded in objective conditions of society. The relationship of private and public life will be examined over the life course from birth to death. Biography will also be considered as a method of sociological inquiry.  Ms. Barry	Sociology 148aR. <b>Social Psychology of Consciousness I</b>	Critical and practical examination of the concept of the individual both in itself and in social context. Social experiences are reexamined in terms of the qualities of mind which engender them. Traditional practices of meditation are reviewed in the forms of metaphor and parable in which they are presented.  Messrs. Fisher and Stein
Sociology 132a. <b>Urban Sociology</b>	Ms. Mueller	Sociology 148b. <b>Social Psychology of Consciousness II</b>	<input type="checkbox"/> Not offered 1985-1986

Sociology 149b. <b>Society and Family in Transition</b>	See NEJS 148b. Ms. Kastoryano	Sociology 170bR. <b>Industrial Sociology</b>	An examination of the modern industrial production and its implications for the social order. Stress will be placed on the nature of the industrial labor process, the internal organization of industrial institutions (the industrial relations system, unionization, management strategies and practices, bureaucratic and white collar work), and the relationships of industry with the state and the international system.
Sociology 150b. <b>Sociology of Revolutionary Change</b>	<input type="checkbox"/> Not offered 1984-1985		Mr. Ross
Sociology 151b. <b>Fieldwork in Social Settings: Environmental Research</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 171a. <b>Black and Third World Women</b>	This course will examine the position of women of color within the context of certain political, economic, social and cultural transformations occurring in the Third World and the United States. Particular emphasis will be placed on women in the Caribbean and Latin America in order to gain a better understanding of both the similarities and peculiarities of their experiences compared to their North American counterparts. We will allow women of color to speak for themselves (through literature, films, etc.) at the same time that we analyze these more global transformations.
Sociology 155b. <b>Social Movements</b>	Ms. Mueller		Ms. Alexander
Sociology 160a. <b>Social Conflict and Its Control</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 173b. <b>Contemporary Problems</b>	We will deal with a selected group of social problems among which will be a) the deterioration of the cities, b) the onslaught of information and misinformation, c) the trouble of consumerism, d) old age and social isolation. The aim of this course is to enable and encourage students to approach existing and proposed institutional arrangements critically.
Sociology 161a. <b>Society, State and Power</b>	This course will examine the ways in which power is exercised in different political regimes and social systems. The major focus of the course will be present-day advanced industrial societies, with particular consideration of the USA. Central topics will include the role of the state in society, the social forces which shape public policy, the control of social conflict. Contrasts will be drawn with Soviet-type societies.		Mr. Bittner
	Mr. Ross		
Sociology 164a. <b>Existential Sociology</b>	This course is an introduction to existential thought and its relation to the discipline of sociology. Existential evaluation of selected theories on human nature and interaction, individual freedom and social ethics, the genesis and fate of the modern human group, types of authority, etc. Readings include works by Sartre, Durkheim, Goffman, Nietzsche, Kierkegaard, Mead and Merleau-Ponty.	Sociology 174b. <b>Technology and Environment</b>	Nature and human productive activities are looked at in terms of the ways they affect each other. Transformations of the landscape, the evolution of industrial technology, biological change, agriculture, and different kinds of environmental impact will be discussed. Farms, factories, forests, wilderness and cities are examined.
	Ms. Hayim		Mr. Fisher
Sociology 165a. <b>Sociology of Birth and Death I</b>	This course will explore the ways in which different societies shape the human experience of birth and death. It will focus on recent changes in the social settings and meanings of birth and death in advanced industrial societies. Topics to be covered include Eastern attitudes towards birth and death, the Holocaust and nuclear war, the social implications of medical technologies and the home birth and hospice movements.	Sociology 176bR. <b>Issues in Third World Development</b>	<input type="checkbox"/> Not offered 1985-1986.
	Mr. Stein		
Sociology 165b. <b>Sociology of Birth and Death II</b>	A continuation of Sociology 165a. Mr. Stein	Sociology 177b. <b>Aging in Society</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 167a. <b>Comparative Social Structures: Advanced Capitalistic Societies</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 178a. <b>Sociology of the Professions</b>	An introduction to the professions in American society, from law and medicine to the public service, academic and business professions. Topics will include: the structure of careers and professional organizations, the schooling process, personal and family stress, bureaucratic work, relation to clients and government, alternative forms of professional work.
			Mr. Bittner

Sociology 179a. <b>The Contemporary American Jewish Family</b>	See NEJS 35 for description. Mr. Brodbar-Nemzer	Sociology 196b. <b>Seminar: Writing and the Social Sciences</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 181a. <b>Methods of Social Research</b>	A broad and critical introduction to social research methodology, with special emphasis on the collection and analysis of quantitative data. Class will consist of lectures, discussion, the organization and implementation of a small on-campus survey, and a series of computer-based exercises.  Mr. Hayes	Sociology 200a. <b>Classical Sociological Theory</b>	Critical readings of the sociologies of Marx, Weber and Durkheim. Mr. Bittner
Sociology 185a and b. <b>Research Methods and Statistics</b>	See Social Welfare 4.01, 4.02. Mr. Kurtz	Sociology 200b. <b>Contemporary Social Thought</b>	Examination of American and European social thought; system and conflict theory, symbolic interactionism, ethnomethodology and phenomenological sociology and critical theory.  Ms. Hayim
Sociology 188b. <b>Sociology of Law</b>	The legal order considered in a framework of cross-cultural and historical comparison. The role of the instruments of the law and of the administration of justice in contemporary society.  Mr. Bittner	Sociology 203b. <b>Field Methods</b>	The methodology of sociological field research in the qualitative research tradition. Readings will include theoretical statements as well as experiential accounts of researchers in the field. The course will include specific methods and procedures of data collection (participant observation, interviewing, collaborative research, systematic observation, oral history) and data analysis.  Ms. Reinhartz
Sociology 189bR. <b>Introduction to the History of Legal Thought</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 205a. <b>Sexual Stratification: Historical and Comparative Perspectives</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 190b. <b>On the Caring of Caretaker Institutions</b>	An analysis of the structural arrangements of medical practice and of medical settings. Problems of communication and role relationships among professions and between patients and medical personnel will be examined. The impact of structures and role relationships on quality and quantity of medical care and on use of resources will be analyzed.  Mr. Conrad	Sociology 207aR. <b>Feminist Theory</b>	A comprehensive study of various approaches to feminist theory through an examination of ideas and writings which frame the theoretical debates in feminism today, particularly between radical feminists and socialist feminists. This course examines the relationship between theory and practice in terms of feminist activism and devotes particular attention to the intersections of race and class with sex oppression.  Ms. Barry
Sociology 191a. <b>Health, Community, and Society</b>	An exploration into interrelationships of the nature of society and societies on the existence and treatment of health and illness. Topics include: conceptions of health and illness, patient careers, and the place of social science in medicine.  Mr. Conrad	Sociology 208a. <b>Seminar in the Sociology of Organization: The Industrial Labor Process</b>	<input type="checkbox"/> Not offered 1985-1986
Sociology 192b. <b>Healing and Healers: Self Care/Self Help Movement</b>	In the latter half of the 20th century, disability has emerged as an important social-political-economic-medical issue. It has, however, a distinct history characterized by one writer as a shift from "good will to civil rights." We will trace that history and the way people with disability are seen and unseen, and see themselves. Particular attention will be placed in understanding the self-care/self-help movement. Students will be expected to carry out a field work project.  Mr. Zola	Sociology 209bR. <b>Class and Politics</b>	<input type="checkbox"/> Not offered 1985-1986
		Sociology 210aR. <b>The Sociology of Development and Underdevelopment</b>	<input type="checkbox"/> Not offered 1985-1986
		Sociology 211a. <b>Research on Women and Society</b>	<input type="checkbox"/> Not offered 1985-1986

Sociology 214a. <b>Topics in Social Psychology: Freud and the Freudian Tradition</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 226aR. <b>Theories in Social Psychology</b>	<input type="checkbox"/> Not offered 1985-1986	
Sociology 215a. <b>The Sociology of State Action</b>	An examination of theories and concepts which have been advanced to explain the dynamics of state action in different social and economic contexts, notably in such advanced capitalistic societies as the USA and in Soviet-type societies, notably in the USSR. Recent discussions of the degree to which the state acts independently of social and economic forces in society will be considered, as will concrete cases of state action.  Mr. Ross	Sociology 228a. <b>Themes in Sociological Theory — Phenomenology and Sociology: Alfred Schutz</b>	<input type="checkbox"/> Not offered 1985-1986.	
Sociology 216b. <b>The Frankfurt School and Critical Theory</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 230-255. <b>Readings in Sociological Literature</b>	230a and b. Mr. Bittner 233a and b. Mr. Fellman 234a and b. Mr. Fisher 238a and b. Mr. Ross 239a and b. Mr. Schwartz 240a and b. Mr. Stein 242a and b. Mr. Wolff 243a and b. Mr. Zola	245a and b. Mr. Conrad 246a and b. Ms. Hayim 247a and b. Ms. Barry 249a and b. Ms. Reinharz 250a and b. Ms. Fields 253a. Ms. Alexander 254a and b. Ms. Hayes 255b. Ms. Mueller
Sociology 217a. <b>Problems and Issues in the Sociology of Health and Illness</b>	The aim of this course is to offer a socio-cultural-historical-political perspective on the study of problems of health and illness. We will accomplish this by examining some of the basic assumptions underlying the way we conceive of and study issues in health care. The written assignments include a health diary, a text analysis, and a book review.  Mr. Zola	Sociology 290a. <b>Pro-Seminar</b>	A seminar meeting once a week in which faculty members introduce their interests and research. <b>Required of all first year graduate students.</b>  Messrs. Bittner and Fellman	
Sociology 218a and b. <b>Advanced Topics in Social Theory and Methods: Surrender and Catch — Experience and Inquiry Today</b>	<input type="checkbox"/> Not offered 1985-1986	Sociology 401-423. <b>Dissertation Research</b>	Independent research for the Ph.D. degree 401. Mr. Bittner 402. Mr. Miliband 404. Mr. Fellman 405. Mr. Fisher 410. Mr. Ross 411. Mr. Schwartz 412. Mr. Stein 414. Mr. Wolff 415. Mr. Zola 417. Ms. Fields 418. Ms. Hayim 419. Ms. Barry 420. Ms. Reinharz 423. Mr. Conrad	
Sociology 219a. <b>Social Systems and Political Forms: Social Conflict and its Management</b>	<input type="checkbox"/> Not offered 1985-1986			
Sociology 219b. <b>Advanced Topics in Political Sociology</b>	<input type="checkbox"/> Not offered 1985-1986			
Sociology 220b. <b>Seminar on the Sociology of Politics</b>	<input type="checkbox"/> Not offered 1985-1986			
Sociology 221a. <b>Advanced Topics in Sociological Theory: Sociology of Religion</b>	<input type="checkbox"/> Not offered 1985-1986			
Sociology 225a. <b>Deviance: Theories and Research</b>	<input type="checkbox"/> Not offered 1985-1986			

## Spanish

See Joint Program of Literary Studies

## Theater Arts

### Objectives

The Master of Fine Arts Program in Theater Arts is designed both to train and to educate—to develop skilled craftsmen of knowledge and judgment about the arts.

Professionally oriented training is offered in three theatrical disciplines: **Acting** (including an Acting/Directing option), **Design/Technical**, and **Dramatic Writing**.

The production program provides extensive practical experience for all students on and behind the stages of the three Spingold theaters, where the actors act, the designers design and construct, and the playwrights have the opportunity to see their accepted plays produced.

### Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Please note, the GRE is not required for Theater Arts admission. Students apply for admission to one of the three disciplines and, in addition to the standard application procedures, Acting applicants are seen in an audition/interview, Design/Technical applicants attend an interview with portfolio evaluation, and Dramatic Writing applicants submit one or more original playscripts for evaluation.

Acting and Design/Technical auditions/evaluations are held at Brandeis. Information about these auditions/evaluations will be furnished by the department after applications have been received; and materials from Dramatic Writing applicants will be reviewed after applications have been received.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the Graduate School by March 1 of their first year in residence.

### Faculty

Professor  
**Charles W. Moore**,  
Chair:  
Acting and directing.

**James H. Clay**:  
Directing and theater history.

Adjunct Professor  
**Karl Eigsti**:  
Scenic design.

Professor  
**Martin Halpern**:  
Playwriting and dramatic literature.

Professor  
Visiting Professor  
**John Bush Jones**:  
Dramatic theory, literature and criticism.

Professor  
**Theodore Kazanoff**:  
Acting and directing.

Associate Professor  
**Robert O. Moody**:  
Scene painting.

Associate Professor  
**Maureen Heneghan Tripp**:  
Costume design.

Assistant Professor  
**Donna Aronson**:  
Voice and speech.

Lecturer with the rank of Associate Professor  
**David Wheeler**:  
Directing

Lecturer  
**Alex Davis**:  
Voice and speech.

Lecturer  
**Flicka Wilmore**:  
Singing.

Artist-in-Residence  
**Daniel Gidron**:  
Acting and directing.

Artist-in-Residence  
**Barbara Harris**:  
Stage management.

Artist-in-Residence  
**Theodore Janello**:  
Technical direction.

Artist-in-Residence  
**Denise Loewenguth**:  
Costuming.

Artist-in-Residence  
**Annie Loui**:  
Movement.

## Degree Requirements

### Master of Fine Arts

#### Residence Requirements.

Acting: two years. Acting with Certification: three years. Design/Technical: three years. Dramatic Writing: two years. Dramatic Writing with Certification: three years.

Actors normally earn the M.F.A. degree in two years. A third-year program for actors, and an acting/directing option available to selected third-year actors, is by invitation from the faculty. Playwrights also normally earn the M.F.A. in two years. A third-year program for playwrights is offered to, at most, one playwright annually on invitation from the faculty. Students may elect to accept the invitation for a third year of study, or may decline and have the two-year M.F.A. conferred. Candidates who complete the third year are granted the M.F.A. with Certification.

## Programs of Study

### Acting

The acting faculty provides close supervision of class and performance work for first-year actors; second- and third-year actors are the core of the acting company for mainstage and other production activities. The third year for actors may include an internship at a major theater company for one production during the academic year.

The Acting/Directing Option exists for those actors who wish a program where directing is explored with minimal technical elements. These students receive a combination of acting and directing assignments in the third year.

All actors (with the exception of first year in the first half of the first term, who are barred from performance work) are required to audition for and play as cast in all major productions, unless excused by the chairman after consultation with the director.

Actors are required to serve on a crew for one major production each year (about sixty hours); normally this crew may not be for a play in which the student is also performing. There is no crew requirement for third-year students in the Acting/Directing Option, but stage managing is recommended. Students are expected to help on crew whenever they have time, regardless of formal credit.

## Courses of Instruction

### Required Courses First Year:

#### Theater Arts 201. Seminar in Dramatic Theory, Method, Literature

Mr. Jones

#### Theater Arts 203. Advanced Acting Studies: I

Study of acting process through observation, physical action, improvisation, scoring, etc. Freeing actor's instrument and working on text become combined through exercise and scene work.

Messrs. Kazanoff, Gidron and Moore

#### Theater Arts 205. Speech I

Mr. Davis

#### Theater Arts 207. Movement for the Actor: I

Includes regular fencing classes.  
Ms. Loui

#### Theater Arts 209. Voice/Speech Studies for the Actor: I

Includes regular classes in singing and Alexander Technique.  
Ms. Aronson

#### Theater Arts 225. Production Laboratory: I

Mr. Janello

#### Theater Arts 233. Singing I

Group Tutorial.

Ms. Wilmore

### Required Courses Second Year:

#### Theater Arts 204. Advanced Acting Studies: II

Continuing work in exploration of process which integrates self and text through study of Laban, Chekov and techniques which help actor objectify emotion. Scoring now includes through-line and overall objective. Scenes from all of dramatic literature.

Messrs. Kazanoff, Gidron and Moore

#### Theater Arts 208. Movement for the Actor: II

Includes regular classes in fencing when available.  
Ms. Loui

#### Theater Arts 210. Voice/Speech Studies for the Actor: II

Includes regular classes in singing and Alexander Technique.  
Ms. Aronson

#### Theater Arts 213. Directing

Mr. Wheeler

#### Theater Arts 226. Production Laboratory: II

Mr. Janello

Theater Arts 234. <b>Singing II</b>	Group tutorial. Ms. Wilmore
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Those students interested in the Acting/Directing Option who receive faculty approval will also take:

Theater Arts 190a. <b>A Study of Acting Theory and Method as They Relate to 20th Century Theater</b>	<input type="checkbox"/> Not offered 1985-1986
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Theater Arts 190b. <b>A Study of Directing Theory and Method as They Relate to 20th Century Theater</b>	<input type="checkbox"/> Not offered 1985-1986
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#### Required Courses Third Year:

Theater Arts 301. <b>Advanced Acting Studies: III</b>	Includes a weekly scene workshop. Mr. Kazanoff
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Theater Arts 302. <b>Movement for the Actor: III</b>	Tutorial. Ms. Loui
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Theater Arts 303. <b>Voice/Speech Studies for the Actor: III</b>	Includes regular classes in singing and Alexander Technique. Ms. Aronson and Mr. Davis
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Theater Arts 304. <b>Rehearsal and Performance</b>	Mr. Kazanoff
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Theater Arts 325. <b>Production Laboratory: III</b>	Mr. Janello
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Theater Arts 334. <b>Singing III</b>	Ms. Wilmore
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Those students taking the Acting/Directing Option will take Theater Arts 301 and 304 and either 302 or 303. In addition, they will take:

Theater Arts 202. <b>Seminar in Dramatic Structure</b>	Mr. Jones
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Students enrolled in the Acting/Directing Option may, with the permission of the instructor, also take:

Theater Arts 180a and b.	<input type="checkbox"/> Not offered 1985-1986.
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#### Production Concepts

#### Design-Technical

All major productions are designed by graduate students. Therefore, a student may be expected to be involved in a design capacity on at least three productions during each year. In addition, students will participate on various production crews as arranged in consultation with the faculty.

The graduate design thesis (Theater Arts 310) is the final project in the Design/Technical program. In some cases a student's mainstage design assignments in the second or third year may constitute part of the thesis project.

#### Required Courses First Year:

Theater Arts 201. <b>Seminar in Dramatic Theory, Method, Literature</b>	Mr. Jones
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Theater Arts 211. <b>Scenic Design: I</b>	Mr. Eigsti
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Theater Arts 214. <b>Costume Construction</b>	Mr. Loewenguth
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Theater Arts 217. <b>Costume Design</b>	Ms. Tripp and Ms. Crow
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Theater Arts 219. <b>Lighting: I</b>	Mr. Anderson
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Theater Arts 221. <b>Sketching and Rendering: I</b>	Costume Studies; Basic Drawing Mr. Wiseman
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Section A:	Set Rendering Mr. Moody
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Theater Arts 222. <b>Drafting</b>	Mr. Janello
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Theater Arts 223, <b>Scenic Painting: I</b>	Laboratory fee to be arranged. Mr. Moody	Theater Arts 231. <b>Life Drawing: II</b>	Laboratory fee determined by enrollment. Mr. Moody		
Theater Arts 225. <b>Production Laboratory: I</b>	Mr. Janello	Theater Arts 232. <b>Costume Construction: II</b>	Ms. Loewenguth		
Theater Arts 230. <b>Life Drawing: I</b>	Laboratory fee determined by enrollment. Mr. Moody	Theater Arts 239. <b>Major Production Process and Design</b>	Ms. Tripp		
Theater Arts 235. <b>Costume History</b>	Ms. Tripp	<b>Required Courses Third Year</b>			
<b>Required Courses Second Year:</b>					
Students will take either (a) Costume Design II, Costume Construction II and Section A of Sketching and Rendering II, or (b) Scenic Painting II and Section B of Sketching and Rendering II. Faculty will determine which group of courses a student will take and, in rare instances, may recommend that a student take both groups. All students will take Lighting Design II, Stage Mechanics, Life Drawing II and Production Laboratory II.					
Theater Arts 212. <b>Scenic Design: II</b>	Mr. Eigsti	Theater Arts 212. <b>Scenic Design: II</b>	Mr. Eigsti		
Theater Arts 218. <b>Costume Design: II</b>	Ms. Tripp and Ms. Crow	Theater Arts 218. <b>Costume Design: II</b>	Ms. Tripp and Ms. Crow		
Theater Arts 220. <b>Lighting: II</b>	Laboratory fee to be arranged. Mr. Anderson	Theater Arts 227. <b>Sketching and Rendering: II</b>	Costume Rendering To be announced		
Theater Arts 224. <b>Stage Mechanics</b>	Laboratory fee to be arranged. Mr. Janello	Section A:	Set Rendering Mr. Moody		
Theater Arts 226. <b>Production Laboratory: II</b>	Mr. Janello	Theater Arts 228. <b>Scenic Painting: II</b>	Mr. Moody		
Theater Arts 227. <b>Sketching and Rendering: II</b>	Costume Rendering To be announced	Theater Arts 232. <b>Costume Construction II</b>	Ms. Loewenguth		
Section A:		Theater Arts 239. <b>Major Production Process and Design</b>	Ms. Tripp		
Section B:	Set Rendering Mr. Moody	Theater Arts 300. <b>Independent Study</b>	Staff		
Theater Arts 228. <b>Scenic Painting: II</b>	Laboratory fee: to be arranged. Mr. Moody	Theater Arts 310. <b>Thesis Projects</b>	Full presentation of projected designs for the scenery, costumes and lighting for a specific play or opera, presented in portfolio form, with the emphasis dependent upon the student's major field or interest. Design Faculty		

**Dramatic Writing**

Dramatic writing students are required to serve on two crews each year (about 120 hours). They are also required to participate in the preparation of any studio, workshop or major production of their plays mounted during the time they are in residence, and this counts as one crew. In rare instances, acting in a major production may count as one crew.

**Required Courses First Year:**

Theater Arts 201.  
**Seminar in Dramatic Theory, Method, Literature** Mr. Jones

Theater Arts 215. A double-credit course.  
**Workshop in Dramatic Writing: I** Mr. Halpern

Theater Arts 225.  
**Production Laboratory: I** Mr. Janello

In addition, one elective course in the first term.

**Required Courses Second Year:**

Theater Arts 202.  
**Seminar in Dramatic Structure** Mr. Jones

Theater Arts 216.  
**Workshop in Dramatic Writing: II** Mr. Halpern

Theater Arts 226.  
**Production Laboratory: II** Mr. Janello

Theater Arts 310b.  
**Thesis Projects** Mr. Halpern

In addition, one elective course in the first term.

**Required Courses Third Year:**

Theater Arts 300.  
**Independent Study** Staff

Theater Arts 315. A double-credit course.  
**Workshop in Dramatic Writing: III** Mr. Halpern

Theater Arts 325.  
**Production Laboratory: III** Mr. Janello

In addition, one elective course each term.

# University Organization

## Board of Trustees

Under Massachusetts law, the 50-member Board of Trustees is the governing body of the University. There are also four faculty representatives and three student representatives to the board who participate in board meetings and have votes on the several committees. The chairman of the Fellows, the president of the National Women's Committee, and the president of the Alumni Association serve *ex-officio*. Alumni elect annually an Alumni Term Trustee who serves as full voting trustee for a five-year term.

## The President

The President, the chief executive officer of the University, is appointed by the Board of Trustees and is responsible for all university activities.

## Chancellor Emeritus

Chancellor Emeritus of the University is an honorary title held by Brandeis' Founding President Abram L. Sachar, whose years of experience are now utilized for the welfare of the University.

## University Fellows

University Fellows comprise about 400 national leaders from a broad base of business, educational and public life who lend counsel, expertise and support to university development and planning programs.

## The President's Council

President's Councilors are leading men and women throughout the country whose skills and experience are placed at the disposal of the Brandeis president in areas of their special competence.

## The Deans

The Dean of the Faculty supervises academic policy, undergraduate and graduate curricula, the faculty and its departments of instruction.

The Dean of the College of Arts and Sciences assumes responsibility for many areas affecting the academic lives of undergraduates, including curriculum development, advisory services and the academic progress of students.

The Dean of the Graduate School of Arts and Sciences oversees the individualized programs of study for scholars, scientists and artists in 20 disciplines.

The Dean of the Florence Heller School for Advanced Studies in Social Welfare oversees the academic activities of the University's first and only professional school and its work in such areas as health, aging, income and employment, and minorities.

The Dean of Student Affairs is responsible for many areas of student life, including student activities, residence life, career planning and placement, health services, and athletics.

## The Faculty Senate

The Faculty Senate, the elected representative body of the faculty, discusses such issues as academic freedom and responsibility, university policy, appointments, tenure, dismissal and salaries.

## The Vice Presidents

The Executive Vice President for Finance and Administration oversees Brandeis' complete financial and administrative support operations. The major responsibilities include budgeting and planning, capital programs, endowment and investment management, library services, computer services, telecommunications, plant operations, employee relations, security, materials management, and community and governmental relations. The Executive Vice President also serves as principal liaison with the Budget and Finance, Investment and Facilities committees of the Board of Trustees.

The Senior Vice President for Development and Alumni Relations is responsible for directing the institutional relations of the university related to fundraising and alumni.

The Vice President for Alumni Relations is responsible for directing and coordinating programs and publications for all Brandeis alumni, the National Alumni Association, regional alumni chapters and the Alumni Fund.

## National Women's Committee

The National Women's Committee, now an organization of more than 65,000 members, has been a partner with the University since 1948. This volunteer organization gives its membership a wide range of educational offerings. These include unique study group programs with syllabi provided by Brandeis faculty; adult education seminars in local communities called "University on Wheels"; and special lectures by university speakers. The 126 chapters across the country are embassies of good will for the University. The central commitment of the Women's Committee, however, is to the Brandeis University libraries. Since it was founded by eight members in Boston, it has contributed more than 25 million dollars in support of the libraries.

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<b>John Putnam Demos</b> Professor of History <i>M.A., University of California, Berkeley</i>	<b>Irving R. Epstein</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>Joachim E. Gaehde*</b> Sydney and Ellen Wien Professor in the History of Art <i>Ph.D., New York University</i>		<b>Ashton Graybiel</b> Adjunct Professor of Psychology <i>M.D., Harvard University</i>	
<b>David J. DeRosier</b> Professor of Biology and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., University of Chicago</i>	<b>Anthony Espósito</b> Lecturer in Spanish <i>M.A., Boston College</i>				

On leave Fall Term 1985-1986\*  
On leave Spring Term 1985-1986\*\*  
On leave 1985-1986\*\*\*

<b>Jeffrey C. Hall</b> Associate Professor of Biology <i>Ph.D., University of Wisconsin</i>	<b>James B. Hendrickson*</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>Kiyoshi Igusa</b> Associate Professor of Mathematics <i>Ph.D., Princeton University</i>	<b>Eric Jensen</b> Assistant Professor of Physics <i>Ph.D., Cornell University</i>	<b>Philip M. Keehn</b> Associate Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Hanspeter Kraft</b> Lecturer in Mathematics <i>Ph.D., University of Basel</i>
<b>Martin Halpern</b> Samuel and Sylvia Schulman Professor of Theater Arts <i>Ph.D., Harvard University</i>	<b>Maurice Hershenson</b> George and Frances Levin Associate Professor of Psychology <i>Ph.D., Yale University</i>	<b>Robert Indik</b> Assistant Professor of Mathematics <i>Ph.D., Princeton University</i>	<b>Leon A. Jick</b> Helen and Irving Schneider Associate Professor of American Jewish Studies <i>Ph.D., Columbia University</i>	<b>Allan R. Keiler</b> Professor of Music <i>Ph.D., Harvard University</i>	<b>Miroslav Krek</b> Lecturer in Near Eastern and Judaic Studies <i>M.L.S., University of Chicago</i>
<b>Harlyn O. Halvorson</b> Professor of Biology and Director, Rosenthal Basic Medical Sciences Research Center <i>Ph.D., University of Illinois</i>	<b>Timothy J. Hickey</b> Instructor in Computer Science <i>M.S., University of Chicago</i>	<b>Judith T. Irvine</b> Associate Professor of Anthropology <i>Ph.D., University of Pennsylvania</i>	<b>William A. Johnson</b> Albert V. Danielsen Professor of Philosophy and Christian Thought <i>Ph.D., Columbia University</i>	<b>Alice A. Kelikian</b> Assistant Professor of History <i>D. Phil., Oxford University</i>	<b>Kenneth Kustin***</b> Professor of Chemistry <i>Ph.D., University of Minnesota</i>
<b>Geoffrey Galt Harpham</b> Assistant Professor of English and American Literature (on the Mellon Foundation) <i>Ph.D., University of California, Los Angeles</i>	<b>Donald Hindley</b> Professor of Politics <i>Ph.D., Australian National University</i>	<b>Alfred L. Ivry</b> Walter Stern Hilborn Professor of Near Eastern and Judaic Studies <i>D. Phil., Oxford University</i>	<b>Patricia A. Johnston</b> Associate Professor of Classical and Oriental Studies <i>Ph.D., University of California, Berkeley</i>	<b>Morton Keller</b> Samuel J. and Augusta Spector Professor of History <i>Ph.D., Harvard University</i>	<b>Margie Lachman</b> Assistant Professor of Psychology <i>Ph.D., Pennsylvania State University</i>
<b>Barbara A. Harris</b> Artist-in-Residence (Theater Arts) <i>M.F.A., Yale University</i>	<b>Eli Hirsch</b> Associate Professor of Philosophy and History of Ideas <i>Ph.D., New York University</i>	<b>Ray S. Jackendoff</b> Professor of Linguistics <i>Ph.D., Massachusetts Institute of Technology</i>	<b>John Bush Jones</b> Lecturer with rank of Professor of Theater Arts <i>Ph.D., Northwestern University</i>	<b>Reuven R. Kimelman</b> Associate Professor of Near Eastern and Judaic Studies <i>Ph.D., Yale University</i>	<b>James R. Lackner</b> Mesulam and Judith Riklis Professor of Psychology <i>Ph.D., Massachusetts Institute of Technology</i>
<b>Michael Harris</b> Associate Professor of Mathematics <i>Ph.D., Harvard University</i>	<b>Thomas C. Hollocher Jr.</b> Professor of Biochemistry <i>Ph.D., University of Rochester</i>	<b>David Jacobson</b> Associate Professor of Anthropology <i>Ph.D., University of Rochester</i>	<b>Peter C. Jordan</b> Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Charles Kindleberger</b> Sachar Professor of Economics <i>Ph.D., Columbia University</i>	<b>Robert V. Lange</b> Associate Professor of Physics <i>Ph.D., Harvard University</i>
<b>Erica Harth**</b> Professor of French and Comparative Literature <i>Ph.D., Columbia University</i>	<b>David M. Hoose</b> Lecturer with rank of Assistant Professor of Music <i>B.M., Oberlin College Conservatory of Music</i>	<b>Pierre-Yves Jacquin</b> Assistant Professor of Anthropology <i>Ph.D., University of Neuchâtel</i>	<b>Edward K. Kaplan***</b> Associate Professor of French <i>Ph.D., Columbia University</i>	<b>Marcel Kinsbourne</b> Adjunct Professor of Psychology <i>D.M., Oxford University</i>	<b>Richard H. Lansing</b> Associate Professor of Italian and Comparative Literature <i>Ph.D., University of California, Berkeley</i>
<b>K. C. Hayes</b> Professor of Biology and Director, Foster Biomedical Research Laboratories <i>Ph.D., University of Connecticut</i>	<b>Judith A. Houde</b> Assistant Professor of Physical Education <i>M.S. Ed., University of Tennessee</i>	<b>Theodore Janello</b> Artist-in-Residence (Theater Arts) <i>M.A., University of Connecticut</i>	<b>William Kapelle</b> Associate Professor of History <i>Ph.D., University of Massachusetts</i>	<b>Lawrence E. Kirsch</b> Professor of Physics <i>Ph.D., Rutgers University</i>	<b>Kevin S. Larsen</b> Associate Professor of Spanish <i>Ph.D., Harvard University</i>
<b>Gila J. Hayim</b> Associate Professor of Sociology <i>Ph.D., University of Pennsylvania</i>	<b>Richard Howard</b> Fannie Hurst Visiting Professor of English & American Literature <i>M.A., Columbia University</i>	<b>Anne F. Janowitz**</b> Assistant Professor of English and American Literature and Dana Faculty Fellow <i>Ph.D., Stanford University</i>	<b>Kathleen M. Karre</b> Assistant Professor of Biology <i>Ph.D., Yale University</i>	<b>Susan Klebanow</b> Artist-in-Residence (Music) <i>M.Mus., New England Conservatory of Music</i>	<b>Martin A. Levin</b> Professor of Politics <i>Ph.D., Harvard University</i>
<b>Peter Heller</b> Professor of Physics <i>Ph.D., Harvard University</i>	<b>Mark L. Hullung**</b> Professor of Politics <i>Ph.D., Harvard University</i>	<b>Gary H. Jefferson</b> Instructor in Economics <i>M.Sc., London School of Economics</i>	<b>Aaron L. Katchen</b> Assistant Professor of Near Eastern and Judaic Studies <i>Ph.D., Harvard University</i>	<b>James Kloppenberg*</b> Assistant Professor of History <i>Ph.D., Stanford University</i>	<b>Harold I. Levine</b> Professor of Mathematics <i>Ph.D., University of Chicago</i>
<b>Michael J. Henchman***</b> Associate Professor of Chemistry <i>Ph.D., Yale University</i>	<b>Robert C. Hunt</b> Associate Professor of Anthropology <i>Ph.D., Northwestern University</i>	<b>William P. Jencks</b> Gyula and Katia Tauber Professor of Biochemistry and Molecular Pharmacodynamics <i>M.D., Harvard University</i>	<b>Theodore L. Kazanoff</b> Blanche, Barbara and Irving Laurie Professor of Theater Arts <i>M.A., Smith College</i>	<b>Raymond Knight</b> Associate Professor of Psychology <i>Ph.D., University of Minnesota</i>	<b>Jerome P. Levine</b> Professor of Mathematics <i>Ph.D., Princeton University</i>
			<b>Elie Kedourie</b> Visiting Professor of Near Eastern & Judaic Studies & Politics <i>B.Sc., London University (University of London)</i>	<b>Ann O. Koloski-Ostrow</b> Lecturer in Classics <i>M.A., University of Michigan</i>	<b>Lawrence Levine</b> Professor of Biochemistry (American Cancer Society Professorship) <i>Sc.D., The Johns Hopkins University</i>
					On leave Fall Term 1985-1986*
					On leave Spring Term 1985-1986**
					On leave 1985-1986***

Norman E. Levine Associate Professor of Physical Education <i>B.S., Bates College</i>	Susan Lowey Professor of Biochemistry and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., Yale University</i>	Teruhisa Matsusaka Berenson Professor of Mathematics <i>Dr.Sc., Kyoto University</i>	Edgardo Moctezuma y Coronado Lecturer in Spanish <i>M.A., Princeton University</i>	Alfred Nisonoff Professor of Biology and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., The Johns Hopkins University</i>	Thomas H. Parker Assistant Professor of Mathematics <i>Ph.D., Stanford University</i>
Alan Levitan Associate Professor of English <i>Ph.D., Princeton University</i>	Robert S. Lurie Assistant Professor of Economics <i>Ph.D., Yale University</i>	Alan L. Mayer Professor of Mathematics <i>Ph.D., Princeton University</i>	Paul H. Monsky Professor of Mathematics <i>Ph.D., University of Chicago</i>	Joan L. Nissman** Assistant Professor of Fine Arts <i>Ph.D., Columbia University</i>	Hugh N. Pendleton Professor of Physics <i>Ph.D., Carnegie Institute of Technology</i>
Irwin B. Levitan Professor of Biochemistry <i>Ph.D., McGill University</i>	Roy C. Macridis** Lawrence A. Wien Professor of International Cooperation <i>Ph.D., Harvard University</i>	Leslie Ann McArthur Professor of Psychology <i>Ph.D., Yale University</i>	Robert O. Moody Jr. Associate Professor of Theater Arts	Edward C. Nowacki Assistant Professor of Music <i>Ph.D., Brandeis University</i>	Peter A. Petri Associate Professor of Economics <i>Ph.D., Harvard University</i>
Avigdor Levy Associate Professor of Near Eastern and Judaic Studies <i>Ph.D., Harvard University</i>	Robert J. Maeda* Professor of Fine Arts <i>Ph.D., Harvard University</i>	R. Shep Melnick** Associate Professor of Politics <i>Ph.D., Harvard University</i>	Charles W. Moore Professor of Theater Arts <i>M.F.A., Yale University</i>	Ricardo B. Morant Minnie and Harold L. Fierman Professor of Psychology <i>Ph.D., Clark University</i>	Wellington W. Nyangoni Professor of African and Afro-American Studies <i>Ph.D., Howard University</i>
Arthur Lewbel Assistant Professor of Economics and Dana Faculty Fellow <i>Ph.D., Massachusetts Institute of Technology</i>	Joan M. Maling Associate Professor of Linguistics <i>Ph.D., Massachusetts Institute of Technology</i>	James B. Merod Assistant Professor of English and American Literature <i>Ph.D., Stanford University</i>	Ruth Schachter Morgenstern*** Adlai E. Stevenson Professor of International Politics <i>Ph.D., Oxford University</i>	Kevin O'Brien Lecturer in Physical Education <i>M.F.A., Princeton University</i>	Conrad Pope Assistant Professor of Music <i>M.F.A., Princeton University</i>
Susan Lichtman Assistant Professor of Fine Arts <i>M.F.A., Yale University</i>	Frank E. Manuel University Professor of History (on the Dibner Endowment) <i>Ph.D., Harvard University</i>	Robert B. Meyer Professor of Physics <i>Ph.D., Harvard University</i>	Martha A. Morrison Assistant Professor of Classical and Oriental Studies and Petrie Term Assistant Professor of University Studies <i>Ph.D., Brandeis University</i>	Takashi Odagaki Assistant Professor of Physics <i>Dr. Sc., Kyoto University</i>	Louise Popkin Lecturer with rank of Assistant Professor of Spanish <i>Ph.D., University of Wisconsin</i>
Denah L. Lida Professor of Spanish <i>Ph.D., University of Mexico</i>	David Marc Assistant Professor of Cinematography (American Studies) <i>Ph.D., University of Iowa</i>	Helena R. Michie Assistant Professor of English and American Literature <i>Ph.D., University of Pennsylvania</i>	Leonard C. Muellner** Associate Professor of Classical and Oriental Studies <i>Ph.D., Harvard University</i>	Rudolf Oldenbourg Adjunct Assistant Professor of Physics <i>Ph.D., University of Konstanz</i>	Hillard Poincy Assistant Professor of African and Afro- American Studies <i>Ph.D., Massachusetts Institute of Technology</i>
Henry Linschitz** Helena Rubinstein Professor of Chemistry <i>Ph.D., Duke University</i>	Eve E. Marder*** Associate Professor of Biology <i>Ph.D., University of California, San Diego</i>	Ralph Miliband*** Morris Hillquit Professor in Labor and Social Thought <i>Ph.D., London School of Economics</i>	William T. Murakami Associate Professor of Biochemistry <i>Ph.D., University of Southern California</i>	James D. Olesen*** Associate Professor of Music <i>B.A., University of Chicago</i>	Alex T. Prengel Jr. Lecturer with rank of Assistant Professor of Computer Science <i>Ph.D., Brandeis University</i>
John E. Lisman Associate Professor of Biology <i>Ph.D., Massachusetts Institute of Technology</i>	Daniel Margolis Lecturer in Jewish Education <i>Ed.D., Columbia University</i>	Peter Markman Assistant Professor of Fine Arts <i>M.F.A., Southern Illinois University</i>	Christopher Miller Professor of Biochemistry <i>Ph.D., University of Pennsylvania</i>	David W. Murray Instructor in Anthropology <i>M.A., University of Chicago</i>	Richard J. Onorato Associate Professor of English <i>Ph.D., Harvard University</i>
Denise Loewenguth Artist-in-Residence (Theater Arts)	Robert L. Marshall Professor of Music <i>Ph.D., Princeton University</i>	Robin Miller Associate Professor of Russian <i>Ph.D., Columbia University</i>	Michael James Newman Assistant Professor of Biochemistry <i>Ph.D., Harvard University</i>	Jessie Ann Owens Associate Professor of Music <i>Ph.D., Princeton University</i>	Robert O. Preyer* Professor of English <i>Ph.D., Columbia University</i>
Annie Loui Artist-in-Residence (Theater Arts)	Danielle Marx-Scouras Assistant Professor of Romance and Comparative Literature <i>Ph.D., Columbia University</i>			Richard S. Palais Professor of Mathematics <i>Ph.D., Harvard University</i>	On leave Fall Term 1985-86*
John M. Lowenstein Helena Rubinstein Professor of Biochemistry <i>Ph.D., London University</i>					On leave Spring Term 1985-86**
					On leave 1985-86***

<b>Alan Sanford Prince</b> Associate Professor of Linguistics and Cognitive Science <i>Ph.D., Massachusetts Institute of Technology</i>	<b>David H. Roberts</b> Associate Professor of Astrophysics <i>Ph.D., Stanford University</i>	<b>Jerry Samet</b> Assistant Professor of Philosophy and History of Ideas <i>Ph.D., City University of New York</i>	<b>Nancy J. Scott</b> Associate Professor of Fine Arts <i>Ph.D., New York University</i>	<b>Marshall Sklare</b> Klutznick Family Professor of Contemporary Jewish Studies and Sociology and Director, Center for Modern Jewish Studies <i>Ph.D., Columbia University</i>	<b>Robert Stevenson*</b> Professor of Chemistry <i>D.Sc., Glasgow University</i>
<b>Esther Ratner</b> Adjunct Assistant Professor of French <i>Ph.D., Brandeis University</i>	<b>Marguerite S. Robinson</b> Professor of Anthropology <i>Ph.D., Harvard University</i>	<b>Susan Scheinberg***</b> Assistant Professor of Classical and Oriental Studies <i>Ph.D., Harvard University</i>	<b>James C. Scovell</b> Assistant Professor of Mathematics <i>Ph.D., New York University</i>	<b>John H. Smith</b> Professor of English <i>Ph.D., University of Illinois</i>	<b>Douglas J. Stewart</b> Professor of Classical and Oriental Studies <i>Ph.D., Cornell University</i>
<b>Benjamin C. I. Ravid</b> Jenna and Mayer Weisman Associate Professor of Jewish History <i>Ph.D., Harvard University</i>	<b>Nicholas Rodis</b> Professor of Physical Education <i>Ed.M., American International College</i>	<b>Jerome A. Schiff</b> Abraham and Etta Goodman Professor of Biology <i>Ph.D., University of Pennsylvania</i>	<b>Erik Selsing</b> Assistant Professor of Biology and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., Purdue University</i>	<b>Wilma Smith</b> Artist-in-Residence (Music)	<b>Alan Stolzenberg</b> Assistant Professor of Chemistry <i>Ph.D., Stanford University</i>
<b>Alberto Rodriguez</b> Lecturer in Spanish <i>M.A., Clark University</i>	<b>Robert F. Schleif</b> Professor of Biochemistry <i>Ph.D., University of Massachusetts Institute of Technology</i>	<b>Harold S. Shapero*</b> Walter W. Naumburg Professor of Music <i>AB., Harvard University</i>	<b>Leigh Sneddon</b> Assistant Professor of Physics <i>D.Phil., University of Oxford</i>	<b>Lyman Stookey</b> Adjunct Associate Professor of Legal Studies <i>L.L.M., Boston University</i>	
<b>Mary Ruth Ray</b> Artist-in-Residence (Music) <i>B.M., State University of New York, Purchase</i>	<b>Michael Rosbash</b> Associate Professor of Biology <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Laurie A. Shepard</b> Lecturer in French and Italian <i>M.A., Boston College</i>	<b>Barry B. Snider</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>James A. Storer</b> Assistant Professor of Computer Science <i>Ph.D., Princeton University</i>	
<b>Alfred C. Redfield</b> Professor of Physics and Biochemistry and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., University of Illinois</i>	<b>Myron Rosenblum</b> Professor of Chemistry <i>Ph.D., Harvard University</i>	<b>Robert A. Schneider</b> Assistant Professor of History and Manheimer Term Assistant Professor of University Studies <i>Ph.D., University of Michigan</i>	<b>Susan Shevitz</b> Lecturer in Jewish Education (on the Summer N. Milender Family Foundation) <i>Ed.M., Harvard University</i>	<b>Està Sofman</b> Lecturer in English and American Literature <i>M.A., Fairleigh Dickinson University</i>	<b>Louis S. Stuhl</b> Assistant Professor of Chemistry <i>Ph.D., Cornell University</i>
<b>Jehuda Reinhartz</b> Richard Koret Professor of Modern Jewish History and Director, Tauber Institute <i>Ph.D., Brandeis University</i>	<b>Robert Rosenblum</b> Adjunct Associate Professor of Legal Studies <i>Ph.D., University of Colorado</i>	<b>Howard J. Schnitzer</b> Professor of Physics <i>Ph.D., University of Rochester</i>	<b>Takahiro Shiota</b> Assistant Professor of Mathematics <i>Ph.D., Harvard University</i>	<b>Bennett Solomon</b> Lecturer in Jewish Education <i>Ed.D., Harvard University</i>	<b>Mary E. Sullivan</b> Lecturer in Physical Education <i>B.S., Boston State College</i>
<b>Shulamit Reinhartz</b> Assistant Professor of Sociology <i>Ph.D., Brandeis University</i>	<b>George W. Ross**</b> Professor of Sociology <i>Ph.D., Harvard University</i>	<b>John E. Schrecker</b> Associate Professor of History <i>Ph.D., Harvard University</i>	<b>William Shipman</b> Lecturer in Physical Education <i>B.A., University of North Carolina</i>	<b>Frederic T. Sommers</b> Harry A. Wolfson Professor of Philosophy <i>Ph.D., Columbia University</i>	<b>Lois G. Swack</b> Lecturer with rank of Assistant Professor in the Hornstein Program <i>Ph.D., Union Graduate School</i>
<b>Bernard Reisman</b> Associate Professor of American Jewish Communal Studies and Director, Hornstein Program <i>Ph.D., Brandeis University</i>	<b>Daniel Ruberman</b> Assistant Professor of Mathematics <i>Ph.D., University of California-Berkeley</i>	<b>Stephen A. Schuker***</b> Professor of History <i>Ph.D., Harvard University</i>	<b>Stephanie Sieburth</b> Lecturer with rank of Assistant Professor of Spanish <i>Ph.D., Princeton University</i>	<b>Peter Swiggart</b> Professor of English <i>Ph.D., Yale University</i>	
<b>Rhonda Rider</b> Artist-in-Residence (Music) <i>M.M., Yale University</i>	<b>Zick Rubin***</b> Louis and Frances Salvage Professor of Social Psychology <i>Ph.D., University of Michigan</i>	<b>Barney K. Schwaberg</b> Professor of Economics <i>Ph.D., Harvard University</i>	<b>Lawrence Siegel</b> Artist-in-Residence (Music) <i>M.F.A., Brandeis University</i>	<b>Andrew G. Szent- Györgyi</b> Professor of Biology <i>M.D., University of Budapest</i>	
	<b>Murray Sachs</b> Professor of French <i>Ph.D., Columbia University</i>	<b>Morris S. Schwartz</b> Mortimer Gryznish Professor of Human Relations <i>Ph.D., University of Chicago</i>	<b>Maurice R. Stein</b> Adjunct Professor of Psychology <i>Ph.D., Harvard University</i>	<b>Robert Szulkin**</b> Professor of Russian <i>Ph.D., Harvard University</i>	
	<b>Benson Saler**</b> Associate Professor of Anthropology <i>Ph.D., University of Pennsylvania</i>	<b>Gerald W. Schwarz</b> Professor of Mathematics <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Marianne L. Simmel</b> Adjunct Professor of Psychology <i>Ph.D., Harvard University</i>	<b>On leave Fall Term 1985-86*</b>	
	<b>Peter W. Samal</b> Lecturer in Chemistry <i>Ph.D., Tufts University</i>	<b>Silvan S. Schweber</b> Professor of Physics and Richard Koret Professor in the History of Ideas <i>Ph.D., Princeton University</i>	<b>Lawrence Sternberg</b> Lecturer in the Hornstein Program <i>M.A., Brandeis University</i>	<b>On leave Spring Term 1985-86**</b>	
				<b>On leave 1985-86***</b>	

<b>Andreas Teuber</b> Assistant Professor of Philosophy and History of Ideas (on the Mellon Foundation) <i>Ph.D., Harvard University</i>	<b>Reed Ueda</b> Lecturer with rank of Assistant Professor of History <i>Ph.D., Harvard University</i>	<b>Hermann F. Wellenstein</b> Associate Professor of Physics <i>Ph.D., University of Texas</i>	<b>Lawrence Wolff</b> Lecturer in University Studies <i>M.A., Stanford University</i>	<b>James A. Zotz</b> Lecturer in Physical Education <i>M.Ed., Springfield College</i>
<b>Ralph Thaxton Jr.</b> Associate Professor of Politics <i>Ph.D., University of Wisconsin</i>	<b>Pierre Van Moerbeke*</b> Visiting Professor of Mathematics <i>Ph.D., Rockefeller University (University of Lieges)</i>	<b>Pieter C. Wensink</b> Associate Professor of Biochemistry and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., The Johns Hopkins University</i>	<b>Peter Woll*</b> Professor of Politics <i>Ph.D., Cornell University</i>	<b>Edgar B. Zurif</b> Professor of Psychology <i>Ph.D., University of Waterloo</i>
<b>Serge N. Timasheff</b> Professor of Biochemistry <i>Ph.D., Fordham University</i>	<b>Helen Van Vunakis</b> Professor of Biochemistry <i>Ph.D., Columbia University</i>	<b>David Wheeler</b> Lecturer with rank of Associate Professor of Theater Arts <i>M.A., Harvard University</i>	<b>David Wong</b> Associate Professor of Philosophy <i>Ph.D., Princeton University</i>	<b>On leave Fall Term 1985-86*</b> <b>On leave Spring Term 1985-86**</b> <b>On leave 1985-86***</b>
<b>Caldwell Titcomb***</b> Professor of Music <i>Ph.D., Harvard University</i>	<b>Richard Varney Jr.</b> Lecturer in Physical Education <i>B.A., Harvard University</i>	<b>Kalpana P. White**</b> Associate Professor of Biology <i>Ph.D., Princeton University</i>	<b>Jonathan S. Woocher</b> Associate Professor of Jewish Communal Service (Lawn School) <i>Ph.D., Temple University</i>	<b>William Michael Wormington</b> Assistant Professor of Biochemistry and Rosenstiel Basic Medical Sciences Research Center <i>Ph.D., University of Kansas</i>
<b>Gary A. Tobin</b> Associate Professor of Jewish Community Research and Planning (Lawn School) <i>Ph.D., University of California, Berkeley</i>	<b>Gloria Waite</b> Assistant Professor of African and Afro-American Studies <i>Ph.D., University of California, Los Angeles</i>	<b>Stephen J. Whitfield</b> Professor of American Studies <i>Ph.D., Brandeis University</i>	<b>Donald E. Worster</b> Jack Meyerhoff Professor of American Environmental Studies <i>Ph.D., Yale University</i>	<b>Flicka Wilmore</b> Lecturer in Theater Arts <i>M.Mus., Southwest Texas State University</i>
<b>Ian A. Todd</b> Associate Professor of Classical and Oriental Studies <i>Ph.D., University of Birmingham</i>	<b>Cheryl L. Walker</b> Assistant Professor of Classical and Oriental Studies and Manheimer Term Assistant Professor of University Studies <i>Ph.D., University of North Carolina</i>	<b>Jeffrey Williams</b> Assistant Professor of Economics <i>Ph.D., Yale University</i>	<b>Luis E. Yglesias</b> Associate Professor of Spanish and Comparative Literature <i>Ph.D., Harvard University</i>	<b>Dwight W. Young</b> Professor of Ancient Near Eastern Civilization <i>Ph.D., Dropsie College</i>
<b>James T. Todd</b> Assistant Professor of Psychology <i>Ph.D., University of Connecticut</i>	<b>David L. Waltz</b> Professor of Computer Science <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Arthur Wingfield</b> Professor of Psychology <i>D.Phil., Oxford University</i>	<b>Judith Francis Zeitlin</b> Assistant Professor of Anthropology <i>Ph.D., Yale University</i>	<b>Robert N. Zeitlin</b> Associate Professor of Anthropology <i>Ph.D., Yale University</i>
<b>Saul Touster</b> Joseph M. Proskauer Professor in Law and Social Welfare and Director, Legal Studies Program <i>J.D., Harvard University</i>	<b>Lawrence J. Wangh</b> Associate Professor of Biology <i>Ph.D., Rockefeller University</i>	<b>Eugene Robert Wiseman, Jr.</b> Lecturer in Costume Life Drawing <i>B. Arch., Rhode Island School of Design</i>	<b>Charles Ziegler</b> Lecturer in Anthropology <i>Ph.D., Brandeis University</i>	<b>Harry Zohn</b> Professor of German <i>Ph.D., Harvard University</i>
<b>Maureen Heneghan Tripp</b> Associate Professor of Costume Design	<b>John F. C. Wardle</b> Associate Professor of Astrophysics <i>Ph.D., University of Manchester</i>	<b>Peter D. Witt</b> Lecturer in American Studies and Director, Education Program <i>Ed.D., Harvard University</i>	<b>Geoffrey Wolff</b> Writer-in-Residence <i>B.A., Princeton University</i>	<b>Irving K. Zola</b> Professor of Sociology <i>Ph.D., Harvard University</i>
<b>Judith Ebel Tsipis</b> Adjunct Associate Professor of Biology <i>Ph.D., Massachusetts Institute of Technology</i>	<b>Bernard M. Wasserstein</b> Professor of History <i>D.Phil., Oxford University</i>	<b>Jerome Wodinsky*</b> Associate Professor of Psychology <i>Ph.D., University of Texas</i>		
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